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ABSTRACT

This annotated bibliography lists published and unpublished elementary and secondary school materials developed in connection with projects of the Ontario Institute for Studies in Education (OISE) from 1970 through 1978. The major portion of the document lists teaching materials. This section first lists documents produced by the Major Thrust in Elementary School Thinking Project, then lists project materials according to discipline. The thinking project is an integrated program of research, development, and dissemination which completed its materials development phase in 1976. Entries are listed according to thinking (general), school-subject oriented problem-solving models, thinking strands (intellectual skills which underlie all systematic thinking), primary grade cognitive simulations, and change models. Other teacher materials are listed by project under the headings of history and the social sciences, language and communication, mathematics, science, the arts, special programs, and development programs for young children. The remaining sections list films, evaluation materials, addresses and information on OISE services to school personnel, and additional sources of information about OISE projects, activities, and publications. (KC)

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OISE Materials for Schools.

March 1978

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The Ontario Institute for Studies in Education

SO 012 217

Development Materials Available Within OISE — March 1978

A large number of published and unpublished materials which have been developed in connection with various projects carried on within the Ontario Institute for Studies in Education are currently available for immediate use by personnel in the elementary and secondary school systems. In this report, these materials are listed and described and information is given as to how they may be obtained.

A number of materials which are included in this report are designated as available from OISE Publications Sales. It should be noted that the published materials listed here constitute only a fraction of the publications by OISE staff; theoretical articles and materials emphasizing research rather than development are not included. The OISE *Publications Catalogue* (available without charge from the Publications Sales office) provides complete information about all materials published by OISE.

For all materials sold through Publications Sales, payment by cheque or money order, payable in Canadian or U.S. funds, is requested. Orders for $20.00 and under should be prepaid. There is a 10% discount to OISE students and staff and on orders of five copies or more (delivery to one address); 20% discount is offered to booksellers and on orders of fifty copies or more (delivery to one address). Customers wishing to ensure receipt of all OISE publications or a specific series of publications are advised to place a standing order. Books are than shipped automatically (and invoiced) on publication. (OISE journals, kit materials, tapes and informal publications must be ordered separately.)

In addition to describing development materials currently available from OISE, *OISE Materials for Schools* includes a list of OISE services available to school system personnel and a list of additional sources of information about OISE projects, activities and publications.

The mailing address of the Institute is: 252 Bloor Street West, Toronto, Ontario, M5S 1V6.

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Materials Concerned With Teaching

ELEMENTARY SCHOOL THINKING PROGRAM

The Major Thrust in Elementary School Thinking is an integrated program of research, development and dissemination which has been in operation since 1971 and which completed its materials development phase in the Spring of 1976. Principal investigators have been: C. Bereiter (Applied Psychology), G. Evans (now at La Trobe University), H.G. Hedges (Field Development, Niagara Centre), W.R. Kenzie (Measurement, Evaluation and Computer Applications), K.A. Leithwood (Curriculum), L. Popp (now at Brock University), E.M. Regan (Curriculum), F.G. Robinson (Field Development, Northeastern Centre) and H.H. Russell (Field Development, Central Ontario Centre). These investigators have, in their individual projects, pursued the general goal of upgrading the thinking capabilities of elementary school students. Some of the resulting materials are for specific subject-matter areas; many are interdisciplinary; still other materials are concerned with the process of curriculum development and dissemination—these are described under the heading "Change Models".

While the initial focus of the project was K-8, extensions produced discipline-oriented materials which are consistent with the emphasis for the intermediate and senior grades proposed in current Ministry guidelines. Since a large proportion of the Major Thrust materials has been developed at OISE field centres and has involved intensive co-operative efforts by field centre staff and personnel of local schools, Boards of Education and Regional Offices of the Ministry of Education, some of the products are not, strictly speaking, "OISE materials". However, those available for use outside the region in which they were developed are noted below.

A short account of the development, personnel, structure and outputs of the Elementary School Thinking Program is available in:

Robinson, F.G. The Major Thrust in Elementary School Thinking. *Orbit*, Vol. 7, No. 2, 1976 (April), pp. 3–8.

The Thinking Materials Resource Centre

In order that practising educators may get maximum benefit from the effort of these and other OISE developers of thinking materials, a Thinking Materials Resource Centre has been established at Niagara Centre, OISE, 28 Prince Street, St. Catharines, Ontario, L2R 3X7. UNLESS OTHERWISE INDICATED, MATERIALS DEVELOPED FOR THE ELEMENTARY SCHOOL THINKING PROGRAM ARE AVAILABLE ONLY FROM THIS CENTRE.

Part of the extensive holdings of the Resource Centre is listed in the pages that follow. The Resource Centre also has on file criterion tests, evaluation reports and a wide variety of informal notes and suggestions of potential value to local curriculum committees and others looking for useful starting points for their own explorations of the vast and complicated field of thinking.

Those involved in curriculum research or development are entitled to access to all Centre files and reports. Those who wish to adopt or try out portions of the material should consult the Thinking Materials Resource Centre Catalogue for a full listing. All publications of the Resource Centre are provided at reproduction and mailing cost.

Organizational Scheme for Major Thrust Materials

The following, somewhat oversimplified, set of categories is employed in the remainder of this section to describe a substantial part of the output of the Major Thrust.

I. *Thinking [General]*: includes superordinate conceptions and organizing schemes for thinking.
II. *School-Subject Oriented Problem-Solving Models:* includes problem-solving schemes appropriate for mathematics/logic, science (experimentation), geography (correlational analysis), history (case studies) and guidance (decision-making/values).
III. *Thinking Strands:* includes some of the intellectual skills which underlie all systematic thinking.
IV. *Primary Grade Cognitive Stimulation:* includes the work of several project staff who developed thinking programs for young children.
V. *Change Models:* includes some of the dissemination/change models that were employed during the conduct of the Major Thrust.

I. *Thinking (General)*

To Create a Thinking Program for the Elementary School
F.G. Robinson

Published in *Orbit* (October, 1974), the article claims that an effective thinking program for the school must be based on: (a) a conceptual scheme for thinking; (b) an honest appraisal of the school's efforts in promoting thinking; (c) teaching methods based on the observation of students involved in thinking tasks; and (d) a school environment which promotes independent thinking. References are made to various facets of the work in the Major Thrust in Elementary School Thinking. 3 pages.

Designing School Programs to Develop Children's Thinking Abilities
L.A. Popp

Both the P1J1 and the projected Intermediate Review documents place a great deal of emphasis on thinking and problem solving. This publication describes a comprehensive set of thinking and inquiry skills and identifies the ways in which these skills can be built into school curricula. This material is applicable from pre-kindergarten through Grade 13 and in all subject areas. 19 pages. 1975.

Research Study Skills

Research Study Skills Committee, Brock University College of Education; Ontario Ministry of Education; Niagara Centre, OISE; Wentworth County Board of Education.

The major steps in the research study activity are described and

the skills required to perform each step are listed. The document thus presents a comprehensive operational description of the research study activity. It is applicable from pre-kindergarten through Grade 13 and across all subject areas. The place of such traditional skills as reading skills, writing skills and library skills is clearly indicated. Skills charts are included. 27 pages. Mimeo. June, 1975.

Inquiry Training: Fusing Theory and Practice
F.G. Robinson, J.A. Tickle (Niagara South Board of Education), D.W. Brison (Field Development, Trent Valley Centre)

This monograph provides an overview of problem-solving models appropriate to a variety of subject areas for the junior and intermediate grades. It defines problem solving in general terms, relates problem solving to learning assumptions, describes and illustrates five basic inquiry models: logic/quantitative; classical experimentation; randomization experiments; correlational analysis; case studies and decision making. The monograph concludes with a statement of the evaluation efforts undertaken in the project and the results obtained. 38 pages. 1972. $2.75.
OISE Publications Sales.

Inquiry Training Program: Teacher's Background Reading. Book I & Book II.
F.G. Robinson

These notes were originally intended for, and were comprehensible by, above-average Grade 7 and 8 students. They also provide a good introduction to problem-solving models for the teacher. The materials consist of a number of sections, each devoted to a particular model, and the development of the model proceeds in a semi-programmed fashion. Book I; 86 pages; Book II; 74 pages. 1971.

Critical Reading
F.G. Robinson & J.A. Tickle (Niagara South Board of Education)

This monograph develops the investigators' convictions that (1) critical reading is a variety of critical thinking which can best be approached from the perspective of a number of problem-solving models, each of which constitutes a plan for reaching rational conclusions or decisions—e.g., for judging the adequacy of the conclusions or decisions presented to the reader, and that (2) the vast majority of problem situations which are thought to be sufficiently common to warrant study in school fall into three general areas: logic, ascribing causality, and decision making. The final section outlines a scheme for categorizing reading stories at various levels of skill-complexity and for generating stories appropriate for each level, and includes a sample of such stories. 28 pages. Mimeo. July, 1973.

Stories to Accompany Critical Reading Monograph
F.G. Robinson, M.L. Robinson and others

This publication is available in either a 27-page sample edition or as a 152-page collection for teachers of Grades K-8. The stories are classified by "level" and a questioning sequence is proposed for the teacher's use. 1973.

Critical Reading
C. Boire (East Parry Sound Board of Education)

This is a research paper submitted to the Ontario Educational Research Council in 1975; it describes a Grade 8 project undertaken by the author during the year 1974-75. Building on an earlier training in problem-solving models, the instructor devised a set of transition lessons which enabled students to analyze written material from "real life" sources in terms of these models. The data indicate gains for the trained students over control groups on both experimenter-designed critical thinking tests and the quality of student questioning elicited by a common stimulus. 44 pages. 1975.

II. *School-Subject Oriented Problem-Solving Models*

(a) Mathematics

(1) *Introduction and Logic Model (Lesson Plans)*
F.G. Robinson

The intent of this unit is to make the student conscious of the rules of inference that are implicitly accepted in other types of inquiry and to provide a basis for the later study of deductive systems. There are numerous applications of the ideas presented in this unit. First, the notion of identifying the elements of a problem and relating them to each other in some schematic way can facilitate the solving of many sorts of problems with mathematical and logical elements. Second, statements involving relations of order and class inclusion are particularly well suited to introducing the notion of proof and assumption, and to the idea of trying to identify assumptions in an argument when they are not stated. 99 pages. 1972.

Introduction and Logic Model (Student's Workbook)
F.G. Robinson

This document contains detailed worked examples and additional problems for use in conjunction with the lesson plans. 70 pages. 1972.

(2) *Logic: Grade 7-8*
J.P. Robinson (Niagara Centre), T. Giblin (Lincoln County Roman Catholic Separate School Board) and Niagara Centre Mathematics Learning Study Group

This unit deals with Venn diagrams, terms used in logical arguments, methods of proofs and examining assumptions and conclusions. One of the basic notions of the materials is that Venn diagramming provides a direct link between the physical activity of sorting and the standard deductive syllogistic mode of reasoning. Each unit begins and ends with a test which can be used for assessing progress and mastery. The material is intended to be readable by bright senior elementary school students and contains many practice examples. 134 pages. 1973.

(3) *A Grade 6 Thinking Program*
T. Giblin (Lincoln County Roman Catholic Separate School Board) and J.P. Robinson (Niagara Centre)

The document contains lesson plans and associated exercises for developing the skills which underlie the mature problem-solving models found in the Inquiry Training Program. The materials are ordered around the following topics; line diagrams; Venn diagrams; tree diagrams; probability; cross-classification; and correlation. 118 pages. 1975.

(4) *Problem Solving in Mathematics: Experimental Materials for Grades 5-9*
F.G. Robinson

The material, in a semi-programmed format, takes the reader through the following topics: What is a Problem? Using Diagrams to Solve Mathematics Problems; Representing the Order of Events by Points on a Number Line; Representing Quantities That Are To Be Operated On In Some Way; Representing Combinations; Diagramming Systems; and Using Algebraic Symbols to Simplify

the Solving of Problems. The material contains many examples; worked solutions are contained in the Appendix. 127 pages. Appendix (40 pages). 1971.

(5) *"Can You Draw Me a Picture?"*
F.G. Robinson

This article, a reprint from *The Educational Courier* (Vol. 44, November, 1973), links mathematics problem-solving performance to the ability to draw diagrams, illustrates some of the weaknesses revealed in children's diagrams and suggests a procedure for teachers to begin to gain an insight into children's representational abilities. 4 pages.

(6) *Systems Problems: Experimental Materials for Grades 5-8*
F.G. Robinson

This unit develops a diagramming device to deal with problems in which we can recognize different "parts" which are related to each other, in the sense that what happens in one part determines, to some extent, what happens in the others. One example of a simple system would be "inputs", "outputs" and "balance" in a bank account over a period of time. 24 pages. 1974.

(7) *Variables, Symbols and Equations: Experimental Materials for Grades 5-9*
G. Evans and J.P. Robinson (Niagara Centre)

This unit was adapted and extended from materials in the Mathematics Problem-Solving Program. The monograph consists of a set of self-programmed notes which begin with the notion of variables, and symbols to represent variables. These ideas are then employed as a foundation to deal with problems that involve solving equations in one unknown. 89 pages. 1973.

(8) See also the following materials listed under Thinking Strands:

Classification and Logic: Ordering; Measurement Monograph; and Rate and Ratio.

(b) Science/Experimentation

(1) *Experimental Model–Physical Science (Lesson Plans)*
F.G. Robinson, J.P. Robinson (Niagara Centre) and J.C. MacBean (Niagara South Board of Education)

This material describes a 15-lesson sequence for developing and applying a model for experimentation in physical sciences at the Grade 7–9 level. 83 pages. 1971.

Experimental Model–Physical Science (Student's Workbook)
J.C. MacBean (Niagara South Board of Education)

This material contains detailed worked examples and additional problems for use in conjunction with the lesson plans. 85 pages. 1972.

(2) *Teaching a Model for Experiments*
D. Story (Ministry of Education) and F.G. Robinson

The material describes how a "model for an experiment" can be developed with senior elementary grade students in two classroom periods. Applications of the model are suggested in the Appendix, entitled "5-minute Exercises for the Experimental Model". 19 pages. 1974.

(3) *Children's Experimental Thinking*
H.G. Hedges, W.R. Kenzie, J.P. Robinson (Niagara Centre) and F.G. Robinson

This describes a series of stages in the child's ability to comprehend and initiate activities directed at discovering a causal relationship in physical systems (experimental thinking). Based on extensive applied research and observation of children, the document also describes pedagogical techniques that have been found effective in producing growth at critical points in the sequence. 85 pages. Revised edition, 1976.

(4) *The Improvement of Science Fairs*
H.G. Hedges, L.A. Popp and F.G. Robinson

This article, published in *Orbit* (April, 1974), describes a five-level categorization scheme for judging the quality of the scientific thinking in a submitted project. Proposals are made for converting this scheme to a project-rating form and for dealing with other factors which present judging difficulties at science fairs. 9 pages. 1973.

(c) Geography/Correlation

(1) *Correlational Studies (Lesson Plans)*
F.G. Robinson and J.P. Robinson (Niagara Centre)

This unit deals with efforts to establish causal links in which deliberate experimental intervention is not possible, so that the inquirer must call upon an examination of the unconstrained variation of dependent and independent variables. This model also considers the case in which some after-the-fact "control" over one or more of the variables has been achieved by matching. 45 pages. 1972.

Correlational Studies (Student's Workbook)
J.P. Robinson (Niagara Centre) and F.G. Robinson

This document contains detailed worked examples and additional problems for use in conjunction with the lesson plans. 88 pages. 1972.

(2) *Preliminary Assessment: Correlational Thinking Program in the Elementary School*
L.A. Popp and J.P. Robinson (Niagara Centre)

This paper is the result of an evaluation of a program to teach correlational thinking to students in Grade 6. The program taught students to recognize a relationship between sets of data, to identify the direction of the relationship, to assess the strength of the relationship in common-sense terms and to calculate a precise description of the strength of the relationship (e.g., $r = .62$) in even-numbered cases. Results of testing at the end of the program and one month later are included. 12 pages. 1973.

(3) *African Climates, Soils and Vegetation: A Unit for Senior Elementary Schools Developed by Means of Correlational Analysis*
T. Millard (East Parry Sound Board of Education)

This unit builds on the model for causal reasoning employed in the Inquiry Training Program. By analyzing real life problem situations, the student is led progressively to the notion of quasi-experimentation in determining causal relationships, then applies techniques of correlational analysis to geographical data dealing with African climates. When a number of single variable correlations fail to yield a reliable predictor of vegetation type, the student is led to invent a "climate typology" which yields a better prediction; this typology is then applied independently to other southern hemispheres. 45 pages. 1974.

(d) History/Case Studies

(1) *Case Study Model (Lesson Plans)*
J.A. Tickle (Niagara South Board of Education, F.G. Robinson and J.P. Robinson (Niagara Centre)

This material is intended to provide a problem-solving component for history programs for intermediate grades. A case study is taken to be an analysis of the factors surrounding a past event, undertaken to arrive at a conclusion as to which of these factors contributed to a significant outcome of the event or were consequences of the event. This unit provides detailed lesson plans for establishing and applying a case study model. 92 pages. 1972.

Case Study Model (Student's Workbook)
J.A. Tickle (Niagara South Board of Education), F.G. Robinson and J.P. Robinson (Niagara Centre)

This document contains detailed worked examples and additional problems for use in conjunction with the lesson plans. 84 pages. 1972.

(2) *Canadian Studies Inquiry Project*
(See pp. 12 - 13 for descriptions of most of the following:)

(a) *Canadian Studies Project of the Office of Field Development: Final Report*
J.H. Love

(b) *Inquiry and Canadian Studies*
J.M. Clemens, J.H. Love and J.P. Robinson

(c) *Research and Curriculum Development Related To Inductive Reasoning Skill Training*
J.H. Love

(d) *Research Related to Designing Inquiry-Based Curriculum Units in Canadian Studies*
J.H. Love

(e) *Canadian Studies Interest Survey*
J.P. Robinson and J.H. Love

(f) *An Analysis of Students' Ability to Perform "Case Study" Reasoning*
J.P. Robinson and J.H. Love

(g) *Designing an Inquiry Using Local Resources: A Series of Workshops for Elementary Teachers*
J.M. Clemens, J.H. Love, I. MacPhail and R. Stevenson

(h) *Social History and Local Studies Programming*
J.H. Love

(i) *Indian Studies–Indian Survival*
G.A. Spence

A Teacher's Guide to Accompany the Unit on Indian Survival
G.A. Spence

(j) *Evaluation of an Integrated Inquiry Approach to Teaching Secondary School History*
G.A. Spence

(e) Guidance/Decision Making/Values

(1) *Real Life Model (Lesson Plans)*
F.G. Robinson and J.P. Robinson (Niagara Centre)

This material, suggested for Grades 7-8, describes problems which require *decisions* to be made and to which no simple logical, experimental or correlational strategy can be applied–the most frequently occurring and most significant types of problems with which individuals must wrestle. Mature thinking about decisions requires that one consider a broad range of alternatives, that one clearly define the criteria and that one employ some systematic means for rating alternatives on the criteria and for deciding which has the best overall rating. The unit provides detailed Lesson Plans for developing and applying a decision model incorporating these features. 46 pages. 1972.

Real Life Model (Student's Workbook)
J.P. Robinson (Niagara Centre) and F.G. Robinson

This document contains detailed worked examples and additional problems for use in conjunction with the Lesson Plans. 98 pages. 1972.

(2) *Real Life Problem Solving (Lesson Plans): Experimental Material for Grades 9–12*
J.P. Robinson (Niagara Centre) and F.G. Robinson

This is an adaptation of the Real Life Model to be used with older students. This monograph provides detailed lesson plans for developing and applying a decision model. 56 pages. 1972.

Real Life Problem Solving (Student's Workbook)
J.P. Robinson (Niagara Centre) and F.G. Robinson

This document contains detailed worked examples and additional problems for use in conjunction with the Lesson Plans. 109 pages. 1972.

(3) *An Abridged Program of Inquiry Skills Training Built Around a Decision-Making Model*
F.G. Robinson

This unit was produced in response to a request for an inquiry skills sequence suited to high school students interested in the analysis of social issues and the formulation of remediating policies. The program requires that the students and teacher analyze an actual student decision, recognize deficiencies in their discussion, and use these as focal points for specific skills training. 50 pages. 1973.

(4) *Pilot Project in Values Education: Informal Notes on a Project Undertaken at Land of Lakes Senior Public School*
D. Dufresne (Northeastern Centre), L. Kehoe (Ministry of Education), N. Mason (East Parry Sound Board of Education), F.G. Robinson and K. Thomson (Land of Lakes Senior Public School)

The materials describe a set of 15 lessons on: bringing values to the awareness level; intensifying and elaborating the awareness of values; values comparing; values ordering and comparing; values reasoning; developing values categories in decision making; values conflict resolution; and values modification. Data are presented on the effectiveness of the experience in modifying behavior. 94 pages. 1974.

(5) See also the following publications, page 13.

(a) *A Teacher's Guide to Accompany a Unit on Values Decision-Making*
G.A. Spence and J.P. Robinson

(b) *Ecology in Environmental Studies: A Problem-Solving Module*
J. King

(c) *An Investigation of Students' Decision-Making Skills as Applied to Past Events*
J.P. Robinson and J.H. Love

III. *Thinking Strands*

(1) *Classification and Logic*
F.G. Robinson

This monograph describes deficiencies in children's classification and logical reasoning skills, relates these to gaps in the school program, defines a hierarchy of classification skills ranging from the physical sorting of objects through to the analysis of assumptions and arguments, and the measurements of the strength of a correlation. Methodology is proposed for making the transitions at several critical points in the growth scheme. 68 pages. 1972.

(2) *Measurement Monograph*
A. Daymond, D. Knight, S. Pasko (East Parry Sound Board of Education), F.G. Robinson, D.E. Story (Ministry of Education) and W.R. Kenzie

This monograph contains: some basic Piaget notions relating to measurement; a hierarchy of skills for the measurement of length; a generalized hierarchy of measurement skills; notes on metric measurement; and suggestions for a climate in which children can learn to measure. 84 pages. Revised edition, 1975.

(3) *Ordering*
F.G. Robinson

The monograph describes observed weaknesses in ordering skills and proposes the use of number lines as an effective aid for dealing with ordering problems. It then describes a 15-level growth scheme for ordering skills and sketches seven lessons intended to produce growth at critical points on the scheme. 44 pages. 1972.

(4) *Rate and Ratio*
J.P. Robinson, H. Zamkov (Niagara Centre) and F.G. Robinson

This monograph describes a nine-level growth plan for rate and ratio skills, ranging from setting up physical correspondences through the standard rate and ratio problems found in the senior elementary grades to joint variation. The central idea is that the student should retain the imagery which would facilitate his approach to the varieties of rate problems that he encounters both in school and in the real world. 29 pages. 1973.

Rate and Ratio (Teacher's Manual) contains 17 detailed lesson outlines designed to make the major transitions in the growth plan for rate and ratio; practice exercises are provided. 154 pages. 1973.

IV. *Primary Grade Cognitive Stimulation*

(1) *Conceptual Skills Kit*
C. Bereiter and E. Regan

This kit provides a thinking program for young children. Besides developing children's abilities to use simple concepts in tasks of identification, the program develops their communications skills and helps them to see relationships.

The kit is available in either English-speakers' or second-language editions. The basic kit includes a teacher's manual, transparency materials and a set of worksheets for 35 children, and costs $187.00; sets of additional worksheets are available separately, at a cost of $150.00

Two films providing an orientation to the program and its implementation in the classroom are available without charge. These films, and a training manual to be used in conjunction with the films, may be borrowed for a two-week period by any interested school. The training manual may be kept by any teacher who plans to implement the program.

All orders for the kit (and worksheet replacement sets), as well as requests for the training films and manual, should be directed to the Thinking Materials Resource Centre. Requests for general information about the Conceptual Skills Program should also be directed to the Centre.

The following reports describing the evaluation of the Conceptual Skills Program are available from Dr. Ellen Regan, Deaprtment of Curriculum:

Scardamalia, M. and Bereiter, C.A. Field Test of the Conceptual Skills Program. Undated.

Regan, E. Leithwood, K.A. and Maynes, F. Evaluation and Implementation of the Conceptual Skills Program, 1973.

Regan, E. and Scardamalia, M. The Use of a Structured Language Curriculum as an Approach to Teaching Second Language Learners in Kindergarten. 1971.

See also the publication, *Effecting Curriculum Change: Experiences with the Conceptual Skills Project*, described on page 7.

(2) *Thinking Games*
Carl Bereiter

The thinking games are designed to give children practice in a variety of thinking skills such as planning, drawing inferences, seeing things from others' points of view, and formulating questions. The games do not constitute a sequential program, but rather a collection from which teachers and students may choose according to their interests. Unrelated to specific subject matter, the 120 games provide a useful supplement to many lessons and classroom activities. They are also suitable for use by parents.

The games were suggested psychologists, parents, teachers and children, and were refined by a team of researchers to meet the main criterion: the development of different thinking skills through practice in game situations. The collection of games is published in two volumes:

Anderson, V. & Bereiter, C. *Thinking Games (Ages 5–9); Book 1.*
Anderson, V. & Bereiter, C. *Thinking Games (Ages 9 and older); Book 2.*

Each is available from OISE Publications Sales at a cost of $4.00.

Each book is arranged in three sections: games for small groups (2, 3 or 4 players); games for 5 to 12 players and games for larger groups up to class size. There is a skills index that identifies the skills emphasized and developed in particular games. The emphasis is on team rather than individual competition; thus, while there is enough competition to generate excitement, each child will almost always experience some measure of success.

The rationale for the thinking games is provided in:

Bereiter, C. Games to Teach Thinking. *Orbit*, Vol. 3, No. 1, 1972 (Feb.), pp. 18-19.

Although a larger number of classes have used draft versions of the materials, twelve classes were involved in the formal field evaluation of the K-3 book and fourteen classes in that of the book for older children.

More information about the development and evaluation of the thinking games can be obtained from the following papers:

Bereiter, C. & Fry, C. Evaluation of Primary Level Thinking Games. 1973. Mimeo.

Bereiter, C. & Fry, C. Evaluation of Intermediate Level Thinking Games. 1975. Mimeo.

The results of a longitudinal study of the effects of using the materials are described in:

Bereiter, C. & Fry, C. Longitudinal Evaluation of Thinking Games: Final Report. 1977. Mimeo.

All three of these papers are available upon request from C. Bereiter, Department of Applied Psychology.

(3) *Stimulating Cognitive Growth: A Program for Primary Grade Children*
Peterborough Curriculum Development Group, E.M. Regan and K.A. Leithwood

A program directed toward development of the skills of observing, listening, thinking, reasoning and communicating has been developed over a two-year period by the Peterborough Curriculum Development Group, under the direction of Dr. E.M. Regan and Dr. K.A. Leithwood. The Curriculum Development Group includes Peterborough area teachers and members of Trent Valley Centre staff and of the OISE Curriculum Department.

The manual *Stimulating Cognitive Growth: A Program for Primary Grade Children* attempts to build upon skills introduced in the Conceptual Skills Program and to introduce skills prerequisite to the problem-solving strategies of the Inquiry Training Project. 98 pages. 1975. (This manual will also soon be available through OISE Publications Sales.)

(4) *Basic Thinking Skills*
L.A. Popp, J.P. Robinson (Niagara Centre) and F.G. Robinson

This material provides an argument for the emphasis on the process part of the curriculum, describes some initial attempts to specify the process domain (Bloom, AAAS, Piaget), outlines growth plans for the nine basic thinking skills which have been identified and attempts to show how the growth plans for these skills are related. It includes a chart outlining the Basic Thinking Skills and the Inquiry (problem-solving) Strategies that can be used as a central organizer for the teacher's lesson planning. 42 pages. 1974.

Manual for the Teaching of Basic Thinking Skills
L.A. Popp, J. Litnewski and L. Bebout (Niagara Centre)

This manual was originally developed for use with parent volunteers involved in a pilot project to teach Basic Thinking Skills to primary school children. For this reason the original manual (November 1974) contained three thinking skill strands—seriating, correspondence and classification—with sample tasks dealing with pictorial materials useful in teaching these three strands. 70 pages. 1975.

Basic Thinking Skills in the Junior Kindergarten Program
L.A. Popp and J.P. Robinson (Niagara Centre)

This material is a description of the Basic Thinking Skills, a possible focus (the cognitive focus) of the Junior Kindergarten program. Levels of Performance are included for the following skills areas: observation, classification, correspondence, seriation and probability. 7 pages. 1974.

"... But Why Don't They Think Straight?"
L.A. Popp

Reprinted from *Education for the Disadvantaged Child*, Vol. II, No. 3, pp. 6–13.

This article presents the argument that use of the Basic Thinking Skills may result in improved diagnosis, remediation and program design for disadvantaged children.

The Place of Activity in Learning
L.A. Popp

This report includes a discussion of the role which student activity plays in the learning process. It is assumed that the physical aspect of learning is not an end in itself but that the physical activity helps students focus on the material that is to be learned, and that it is the internal (intellectual) changes which occur during the physical activity that constitute the product of the learning situation. Examples of intellectual growth drawn from the primary division are presented. 19 pages. 1972.

(5) *Self-Directed Inquiry*
W.R. Kenzie

Children of primary-grade age seem to possess a natural motivation to find out about the material environment by first-hand, empirical enquiry. W.R. Kenzie has investigated various arrangements and methods for assisting kindergarten and primary grade children to find out for themselves about things that interest them through concrete experience with materials, environment and natural phenomena. Such experience is considered valuable because: (a) it provides concrete referents for later verbalized learning in such areas as science, social studies, mathematics and language; (b) Piaget's proposal that intelligence develops through internalization of action implies that the child needs varied and repeated opportunities for self-involvement in first-hand activity; and (c) the child may, out of his own experience, develop strategies of learning which are more likely than "taught" strategies to be applied spontaneously to new situations. If such experience is to be effective, it requires that the teacher assume a new role as "facilitator." rather than "director" of learning.

Dr. Kenzie has prepared a number of papers to assist teachers interested in self-directed inquiry activities, of which the following are representative:

Preliminary Notes on a Concept of Self Directed Inquiry

This set of notes provides a rationale for self-directed inquiry, defined as "intrinsically motivated finding-out". The author's purpose is to assist kindergarten and primary grade children to find out for themselves about things that interest them through concrete experiences with materials, environments and natural phenomena. 8 pages. 1973.

Piaget and Self-Directed Learning: A Guide for Parents and Teachers

The paper discusses the emphasis that Piaget places on the importance of physical activity and peer group interaction in intellectual development. It continues with a "question and answer" section dealing with issues parents frequently raise about the "open" classrooms necessary for self-directed inquiry programs. The final section of the paper deals with growth in the concepts of quantity and space. 15 pages. 1974.

Assessing and Facilitating Children's Inquiry. Fun with a Puzzling Phenomenon (excerpts)

This article describes a method by which teachers who wish to develop children's curiosity-based learning can assess an individual child's manipulative curiosity and experimentalism. A test is described by which the teacher can explore the inquiry climate that exists between child and teacher. The test centers on a puzzling-phenomenon situation; an

opportunity for the child to experiment and discover and for the teacher to practise facilitating the child's inquiry in the direction of a scientific experiment. 17 pages. 1975.

(6) *Use of Volunteers in Providing Cognitive Stimulation*

Cognitive stimulation of young children can be greatly enhanced if the child can interact on an individual basis with a "teacher". The use of parent and other volunteers provides one viable means of increasing the amount of individual attention the child receives. While the entire parent volunteer literature becomes relevant to the creation of a thinking program, the following publications speak more directly to this matter:

Niagara Centre Staff. *Parents' Manual #1.* 1970.

Niagara Centre Staff. *Parents' Manual #2.* 1971.

See also:

Popp. L.A. and others. *Manual for the Teaching of Basic Thinking Skills.*

V. *Change Models*

(1) The "diffusion model" developed at the Trent Valley Centre has influenced many of the Elementary School Thinking Program's dissemination activities. This Centre's work on the change process has resulted in the reports and articles listed below; descriptions of the reports appear on pages 30 - 31 in the fourth section of the present report.

Effecting Curriculum Change: Experience with the Conceptual Skills Project
E.M. Regan and K.A. Leithwood. (77 pages, 1974. $4.25. OISE Publications Sales.)

The Peterborough Project: A Case Study of Educational Change and Innovation
H.H. Russell, K.A. Leithwood and R.P. Baxter. (142 973. $5.95. OISE Publications Sales.)

Planning Curriculum Change: A Model and Case Study
K.A. Leithwood, J.S. Clipsham, F. Maynes, R.P. Baxter and J.D. McNabb. (127 pages. 1976. $6.50. OISE Publications Sales.)

Leithwood, K.A. and Clipsham, J.S. Planned Change at the System Level. *Curriculum Theory Network,* Vol. 5, No. 3, 1976.

Leithwood, K.A., Russell, H.H., Clipsham, J.S. and Robinson, F.G. School Change: Stages, Constructs and Research Methodology. *Interchange,* Vol. 5, No. 4, 1974.

Leithwood, K.A. and Russell, H.H. Focus on Implementation. *Interchange,* Vol. 4, No. 1, 1973.

(2) *School System Intervention: Strategies Derived from Analyses of OISE's Field Centre Projects*
K.A. Leithwood, M. Holmes (Field Development) and D. Montgomery (Curriculum)

This monograph, soon to be published by OISE, includes case studies of twelve field centre projects and conceptualizations of the innovation strategies they used in introducing curriculum change. (See also page 31.)

(3) *Cyclic Revision as a Component Process in Planned Educational Change*
D.E. Story (Ministry of Education) and F.G. Robinson

This paper defines a series of stages involved in the implementation of particular objectives in Ministry guidelines and describes the role to be played by local change agents. The descriptions are based on successful local curriculum development projects in intermediate level science.

HISTORY AND SOCIAL SCIENCES

Canadian Social History Project
I. Winchester (History and Philosophy of Education)

This project has three major objectives: to produce research in the neglected area of Canadian social history; to provide a base of research methods and materials for a number of historians in this area who begin as OISE graduate students; and to meet the needs of high school, university and a variety of adult students and educators in the field of Canadian social history by pioneering the study of new questions and techniques and by providing guidelines, paradigms, bibliographies, completed research and manuals.

The project has developed a data-bank on individuals living in a nineteenth-century Canadian city (Hamilton) during the process of industrialization and analyzed key questions in social history and social theory. In addition, in order to inform teachers about new approaches to social history and to promote more up-to-date and meaningful approaches to Canadian social development, the project has produced a booklet introducing teachers to sources and methods for the study of the people of Ontario. This booklet, *A Guide to the Study of Family and Class in Ontario's Past,* is available from Dr. Ian Winchester to teachers willing to write a brief evaluation of its usefulness, quality of materials, omissions, and so on.

A more recent manual, addressing the need for clear "how-to-do-it" materials, has been prepared and distributed to the twenty teachers with whom the project staff have been working on a consultative basis. It, too, may be borrowed from the project.

A shortened version of this latter manual appears in *Orbit* ("Records of the past: A Way to Study Canadian History". *Orbit,* Vol. 7, No. 1, Feb. 1976, pp 3–7); offprints of this article are available from Dr. Winchester.

Project staff are developing the "Orillia Kit", a collection of materials sufficient for serious social history studies in high school and university classes, which will contain the manual described above. This Kit is intended to be not a closed package but rather an open-ended opportunity to learn how-to-do-it from a model which also enables the researcher to produce a genuine piece of social history.

Further information about the project, its methods and data collected can be obtained from the following sources:

Canadian Social History Project: Interim Report No. 5 (Available from I. Winchester at a cost of $5.00)

Canadian Social History Project: Interim Report No. 4 (Available from OISE Publications Sales at a cost of $6.50)

Canadian Social History Project: Interim Reports Nos. 1, 2 and 3. (Available on microfilm from I. Winchester, at a total cost of $10.00)

Canadian Social History Project: Interim Report No. 6 (Available in draft form from I. Winchester)

Katz, M. The People of a Canadian City: 1851-2. *Canadian Historical Review,* Vol. 53, No. 4, 1972 (Dec.), pp. 402–426.

Project staff sponsor seminars and conferences and offer consultation to teachers interested in using the materials.

Canada and the Third World Studies Project
F. Endicott (History and Philosophy of Education)

In 1974 this project, in addition to developing and disseminating prototype materials, began to work with teachers interested in developing units on development education as these pertain to the ethnic mix in their classrooms. In relation to this work the Project is developing a curriculum unit on Canada and the Caribbean for Grades 5 to 8. The first section, "The Child and the City," has been completed and tested and has been submitted for publication to OISE. The second section, "Jamaica," is being prepared. In addition, the Project has undertaken the production of four ten-minute slide/tape and videotape kits exploring immigration in Ontario. This is entitled "Images of Assimilation" and is scheduled to be completed in June 1978.

A more general handbook on development education, *The Problem Exists in the Classroom Because It Exists in the World,* incorporates the rationale and experiences of the Project in this area. It is available from Fran Endicott, Department of History and Philosophy of Education.

Teachers interested in any aspect of the Canada and the Third World Studies Project should contact Mrs. Endicott.

Province of Ontario Development Education Newsletter: Ideas and Information for Elementary and Secondary Schools
K.F. Prueter (Office of International Education)

The Province of Ontario Development Education Committee was established in 1975 with the aim of providing opportunities for Ontario educators to consider the significance of education for global development through this *Newsletter,* through the provision of better access to teaching resource materials, through workshops for educators and through the development of Ontario teacher resource materials.

The *Newsletter* contains in each issue general information in the development education area and specific suggestions for the classroom teacher. For a free sample copy, write to the Office of International Education, OISE.

Man's Problem World
Office of International Education

This issue is the first in a series of specific Ontario school programs in Development Education. It outlines a Grade 13 geography program developed by Paul Thomas, a doctoral student at OISE and head of the geography department of Streetsville High School. The program, approximately 60 pages long, is available through the Office of International Education, OISE, at a cost of $1.00 per copy (English only).

Development Education: Education for a Global Community
K.F. Prueter (Office of International Education)

This report deals with the why, what and how of development education, with many examples of existing resource materials, including sample curriculum units. It is available at 50¢ per copy from the Office of International Education, OISE (English only).

Development Education Program Calendar
Office of International Education

This contains full details of the Ontario program of Development Education, the services and resources available to teachers, and a resume of forthcoming publications. For a free copy, write to the Office of International Education, OISE.

Canadian Public Issues Project
P. Bourne, J. Eisenberg and H. Troper (History and Philosophy of Education)

This project is producing a series of booklets concerned with developing an understanding of contemporary Canadian society through presenting case studies—supplemented where necessary by interpretive essays—of issues of widespread concern in Canada today. To date, ten units in the Canadian Critical Issues have been published; all were field-tested prior to publication and are used in schools across the province.

The following four units are available only from General Publishing Company Limited, 30 Lesmill Road, Don Mills, Ontario, M3B 2T6 (average length 107 pages):

Don't Teach That! explores areas such as religious education, in which teaching in schools touches upon questions of strong personal convictions. ($1.25)

Foreign Ownership is concerned with the problems and issues arising from the extensive foreign ownership of business corporations in Canada. ($1.25)

The Law and the Police includes recent cases illustrating the controversy that results when the rights of the individual clash with the process of law enforcement. ($1.50)

Rights of Youth describes situations where conflict arises between the responsibilities of schools and the rights of young people. ($1.50)

The following six units are available from OISE Publications Sales:

Native Survival is concerned with the dilemma of Canada's Indians as the culture and laws of the majority threaten their way of life and their group identify. ($2.50)

Crisis in Quebec examines, within the political context of Quebec, the rise of the Front de Libération du Québec and the events of October 1970. ($2.50)

The Right to Live and Die includes case studies around such issues as abortion, sterilization, euthanasia and capital punishment, as they concern the individual, the society and the law. ($2.50)

On Strike! examines several labor-management confrontations of recent years in Canada in the light of their impact on workers, business and the public. ($2.50)

Women in Canadian Society (Revised Edition) contains case studies concerned with women and work, women and the law, the Criminal Code, and native women. These provide the basis for consideration of the current economic, legal and social status of women in Canadian society. ($2.75)

Issues in Cultural Diversity examines the tensions that often affect relations between minority groups or group members and the wider Canadian community. It considers actual cases of religious, ethnic and racial conflict in order to point up problems of diversity in Canada. ($3.30)

At present, the project is developing its final unit, "Problems of Urbanization," and the teacher's guide, *Social Issues in the Curriculum: Theory, Practice and Evaluation,* is expected from OISE Publications Sales in May 1978. *Social Issues in the Curriculum: Theory, Practice and Evaluation* has been developed to assist teachers using the Canadian Public Issues materials and also to assist teachers involved in developing and teaching social science and social studies programs where value issues enter. The book contains three sections focusing on the theoretical framework, the practical

application and the evaluation of such programs. Specific references to the Canadian Critical Public Issues Program are contained throughout the book and in one chapter the relevance of Canadian Critical Issues Units to specific Ontario Ministry of Education Curriculum Guidelines is detailed.

Project staff are willing to conduct workshops for teachers and professional Delevopment days. Schools interested in these should contact Paula Bourne, Department of History and Philosophy of Education.

More information about the general approach taken by the project can be obtained from:

Levin, M.A. Analysis of Public Issues: An Interdisciplinary Focus for Canadian Studies. *Canadian Jounal of History and the Social Sciences,* 1969 (November).

Eisenberg, J.A. A Problems Approach to Social Studies. *Canadian Journal of History and the Social Sciences,* 1970 (March).

Bourne, P. and Eisenberg, J. The Canadian Public Issues Project: Learning to Deal with Social Controversy. *Orbit,* Vol. 6, No. 5, 1975 (December), pp. 16–18.

Curriculum on Women Project
R. Kane (Measurement, Evaluation and Computer Applications)

A package of materials, the *Women's Kit,* was prepared for use in courses or units on women in high schools or community colleges. Its objectives were: to engender in women students a broader sense of their own potential and their history as women; and to give students an historical context for viewing the current roles of men and women. The Kit is available through OISE Publications Sales for $50.00

An article describing the Kit and its evaluation appears in "Canadian Curriculum Projects" (van Manen, M., Faga, L.P., Evans, C., Breithaupt, A. and Wayne, D.A. Content and Form of a Curriculum for Women's studies: The Women's Kit. *The History and Social Science Teacher,* Vol. 10, No. 4, 1975, Summer).

After the publication of the *Women's Kit,* project staff developed more specialized materials for which the greatest need had been expressed. The following, final, materials produced by this project are available now from OISE Publications Sales:

Breaking the Mould: lesson Aid Plans to Explore Sex Roles, K–8
Edited by M. Smith and C. Pasternak

These materials, in loose-leaf format, are divided into two major sections. The larger one is made up of projects for the classroom which explore sex-role stereotyping from a variety of approaches. The second section consists of extensive lists of resources and sources, in Canada and the United States, of non-sexist materials for the elementary school. 1978. $4.95.

Pioneer Women
Edited by M. Smith and C. Pasternak

This source book for Grades 7–13 deals with the activities of women, mainly from Alberta, from the turn of the century up to around 1940. It consists almost entirely of newspaper clippings and magazine articles and thus gives an illuminating perspective on how women were viewed in this period, as well as a history of their accomplishments. 1978. $4.25.

Women's Research and Resource Centre
M. O' Brien and F. Forman (Sociology)

Since its official opening in September 1976, the Women's Research and Resource Centre has researched, collected and provided research material and multimedia resources in English and French for Women's Studies and Gender Studies. These include books, periodicals, research papers, archival and government documents, and non-sexist curriculum aids; as well, the collection has video and audio tape, records, photographs and posters. The sources and coverage of these materials has been world-wide, but the emphasis has always been on Canadian content.

The Centre is located on the sixth floor at OISE, in Room S630. It is open to the public between 9:15 a.m. and 4:30 p.m. on Wednesdays and Fridays, and between 10:00 a.m. and 8:00 p.m. on Thursdays. At these times, a resource person is available, and materials can be borrowed or copied.

Canadian Newsletter of Research on Women
M. Eichler (Sociology)

The Canadian Newsletter of Research on Women, devoted to the stimulation and dissemination of research on women and sex roles, is designed to provide a meeting ground for those with widely differing backgrounds and needs. Certain features of the *Newsletter* are designed to encourage its use by teachers, administrators and students in the school system. In addition to reporting and abstracting relevant recent research from Canada and abroad, it reviews Canadian books which would be suitable as supplementary materials in the schools. As a service to those undertaking curricular reform, entire syllabi from various disciplines and institutions are occasionally reprinted and new courses offered are described. Status reports from the various governments and institutions (including textbook reform) are summarized, along with information on availability. An on-going feature of the Newsletter is the maintenance of an extensive periodicals and resources section, to which those having specialized information needs can refer.

The Newsletter is published three times a year; annual subscriptions cost $7.00 for Canadian individuals, $8.00 for other individuals and $15.00 for institutions (schools, libraries). Its mailing address is:

Canadian Newsletter of Research on Women,
Department of Sociology,
OISE.

In addition, back issues (to May, 1972) are available; for further information about these, and about the special issues on particular topics which have been and will be published, contact Jennifer Newton, Department of Sociology, OISE.

Women in Canadian History Project
A. Prentice (History and Philosophy of Education)

This project is designed to do research and to develop teaching units, teacher guides and other aids for teaching and research in the history of women in Canada. It has been developed in response to a clear need for such materials and for research into the best way to introduce material on women and on the relations between the sexes into existing and future senior courses in Canadian history and into related social studies courses.

To date, the project has produced the materials listed below. All are available through Beth Light, Women in Canadian History Project, Department of History and Philosophy of Education.

Light, B. and Prentice, A., comp. *Recent Publications in the history of Canadian Women.* 36 pp., Annotated, Xerox, $1.50.

Light, B., Prentice, A. and Royce, M. *Women and Education in Canada: A Documentary Study.* (Classroom sets available for testing purposes only)

Light, B. and Prentice, A., *Pioneer and Gentlewomen of British North America, 1713–1867.* (Classroom sets available for testing purposes).

Development of a Curriculum Unit Concerning Architectural Preservation and Urban Development
I. Winchester (History and Philosophy of Education)

This project, jointly supported by Heritage Canada and OISE, has as its general approach the presentation of controversial cases in order to stimulate discussion of issues and conflicting values (as in the Canadian Public Issues Project, page) in a larger urban studies context.

More specific information about the project is contained in the following article:

Jackson, E. Preservation of Our Architectural Heritage: An Urban Problem. *Orbit,* Vol. 8, No. 1, 1977 (Feb.), pp. 5-9.

Although the development and evaluation of the unit is not complete, the following case studies are available in draft form, from Ed Jackson, Department of History and Philosophy, OISE, to interested teachers:

The Dundas-Sherbourne Project, Toronto
The Howard Building (999 Queen St.), Toronto
The Rideau Street Convent, Ottawa
The Kitchener City Hall and Market, Kitchener

Documents in Canadian History
V. Robeson (Field Development) General Editor.

This collection of documents in four volumes is the result of cooperative work over a five-year period by French- and English-Canadian teachers of history in Montreal and Toronto. The assembling of primary source material in French and English on issues and topics in Canadian history, and their pre-testing in secondary school classrooms, was sponsored by the Canada Studies Foundation and by OISE, in a project headed by Dr. Robert Laxer, Department of Applied Psychology. The primary materials, drawn from many sources, cover a wide range of social, economic and political issues from different periods in Canadian history and illustrate divergent points of view.

The four volumes, now available from OISE Publications Sales, are entitled:

New France: 1713–60. 1977. $4.75
Upper Canada in the 1830s. 1977. $5.25

Lower Canada in the 1830s. 1977. $4.20
Debates About Canada's Future: 1868–96. 1977. $4.20

Additional information about the development of the materials, reading lists and suggestions for classroom use are available in *Documents in Canadian History: Teacher's Guide.* It, too, is available from OISE Publications Sales. 1977. $2.75.

Current Issues in Labor-Management Relations and Trade Union History in Canada
R. M. Laxer (Applied Psychology)

This joint project of OISE and the Canada Studies Foundation has culminated in a series of three books, available through OISE Publications Sales and designed for the upper grades of high school. Together the books present a balanced and objective account of the history and present position of organized labor in Canadian society.

Union and the Collective Bargaining Process is a basic text on the structure and operation of unions and their interaction with management. 1978. $3.95.

Union Organization and Strikes consists primarily of four case studies of major strikes—Grand Trunk (1910), Ford (1945), Stelco (1946), and Asbestos (1949)—that had major significance in establishing union recognition and union security. 1978. $3.95

Technological Change and the Work Force introduces students to the far-reaching consequences of technological innovation as it affects the very nature of work and way of living in society. 1978. $3.95

Ten Years in a Box: The 1930's Multi-Media Kit
D. Stansfield and A. Barton (Computer Apolications)

The "Thirties Box" contains about 1000 items of diverse content relating to the culture of the Depression years. Included are records, filmstrips, color slides, audio tapes and a large assortment of posters, newspapers, pamphlets, postcards, notes and quotes, and many other items. The contents are intended for children to handle and refashion as they wish. Few items are labelled and teachers are instructed to provide a minimal amount of structure for the use of the box. $50.00.

OISE Publications Sales.

The 1930's Multi-Media Kit: A Report on its Use in Schools
D. Stansfield and A. Barton (Computer Applications)

This report describes the experimental use of the multi-media kit, *Ten Years in a Box,* in 200 Ontario schools. 160 pages. 1969. $2.65.

OISE Publications Sales.

Teaching Prejudice: A Content Analysis of Social Studies Textbooks Authorized for Use in Ontario
G. McDiarmid and D. Pratt (Curriculum)

This study was carried out for the Ontario Human Rights Commission. Through a quantitative analysis of written and illustrative material in textbooks, it shows how prejudice against various racial or national groups is being taught in the classroom, and it outlines a method to develop students' skill in evaluating allusions to different groups. 131 pages. 1971. $4.75.

OISE Publications Sales.

National Consciousness and the Curriculum: The Canadian Case
J. Herbert (Curriculum) and G. Milburn, Editors

In this book, several Canadian educators, writers and politicians debate the ethics of teaching nationalism in the schools. The editors' introduction raises many of the questions considered in the book and their conclusion reflects upon some of the principal arguments made by other contributors. 151 pages. 1974. $4.50. OISE Publications Sales.

Canadian Public Figures on Tape
R. Alway, Interviewer (Editorial Division)

This project has produced a series of original and informal interviews with people who, during the 1960's, made major contributions to Canadian public life. The series includes informal interviews with nine people and a "dialogue" tape featuring a

discussion between J.R. Smallwood and Jack Pickersgill.

The following tapes are available, in either reel-to-reel or cassette format, only from Clarke Irwin and Co. Ltd., 791 St. Clair Avenue West, Toronto, Ontario, M6C 1B8. A full set of ten reels costs $99.00 net; a full set of ten cassettes costs $90.00 net. Single reels are $11.00 net and single cassettes are $10.00 net.

John Diefenbaker, Part I
(Boyhood to 1957)
John Diefenbaker, Part II
(1957 to present)
Walter Gordon and T.C. Douglas
Judy LaMarsh
Maurice Lamontagne
René Lévesque
Paul Martin
Lester Pearson
Jack Pickersgill
J.R. Smallwood–Jack Pickersgill
discussion

Canadian Contemporary Issues on Tape
J. Main (Publications)

This series provides insight into issues of national concern and the ways in which Canada carries out its international business. It is appropriate for high school courses and for introductory courses at the university and community college level.

The following interviews, with Robert Reford, Gerald Wright, Vincent D'Oyley and Gerald Caplan as interviewers, are available from OISE Publications Sales:

Canada's Foreign Relations: 1867–1919 (with Robert Bothwell)

Canada's Foreign Relations: 1919–1945 (with Jack Granatstein)

Canada's Foreign Relations: 1945 to the Present (with Denis Stairs)

Canada and China (with William Saywell)

Diplomacy and Foreign Policy (with Arthur Andrew and John Holmes)

Russia for Canadians (with Franklyn Griffiths)

The *Canada/U.S. Relations* sub-series includes four tapes:

Historical Development (with Donald Page) *Current Concerns* (with Peyton Lyon)

American Investment (with John Crispo)/*Canadian Nationalism* (with Abraham Rotstein)

The International Joint Commission (with Max Cohen)/ *North American Cultures* (with Wynne Plumptre)

The *Canada/Caribbean Relations* mini-series includes two tapes at this time:

Economic Development (with Edward Green and David Reece)

Cultural Evolution (with Hector Wynter and Jan Carew)

The *Caribbean Canadians* mini-series includes:

Becoming Canadian (with Joan Browne and Rosemary Brown)

Adapting to the Metropolis (with Austin Clarke and Hank Clarke)

The *Canada/Third World Relations* mini-series has developed:

Changing Economies and Agriculture (with David Hopper and Gerald Helleiner).

Finally, the series includes:

Canada/Commonwealth Relations (with Arnold Smith)

Canada/U.N. Relations (with William Barton).

All of these interviews are available on reel-to-reel tapes ($10.75 each) or cassettes ($9.00 each) from OISE Publications Sales.

Moral Education Project
C. Beck (Office of Graduate Studies) and E.V. Sullivan (Applied Psychology)

This project, over the past few years, has been concerned with developing: (a) a theory of moral development, readily understandable by teachers; (b) carefully formulated programs and methods of stimulating moral development; (c) materials from a variety of sources for use in moral education; (d) methods of assessing moral development; and (e) prototype programs in teacher education.

The following publications have resulted from the Project:

Beck, C. *Moral Education in the Schools: Some Practical Suggestions*
This suggests teaching methods and a series of course outlines for teachers interested in discussing value questions with students from Kindergarten to Grade 13. 40 pages. 1970,
$2.75 from OISE Publications Sales.

Beck, C. *Ethics.* Toronto: McGraw-Hill, 1972. $2.95.
This is a textbook for students in Grades 11–13.

Beck, C. *The Reflective Approach in Values Education,* OISE, 1976. Available free, from the Ontario Government Bookstore, 880 Bay Street, Toronto, M7A 1L2.

Porter, N. and Taylor, N. *How to Assess the Moral Reasoning of Students: A Teacher's Guide to the Use of Lawrence Kohlberg's Stage-Developmental Model*

This monograph illustrates the use of the principal assessment instrument used in the project. 57 pages. 1972. $3.25 from OISE Publications Sales.

Mitchell, M., MacQueen, G. and Bieler, M. *Three Approaches to Religious Education*
These authors discuss three approaches to the teaching of religion in high school. Included are a history-oriented study of world religions, an issue-centered approach to the teaching of religion and an investigation of myth and symbolism. 30 pages. 1972. $2.50 from OISE Publications Sales.

Sullivan, E.V., Beck, C., Joy, M. and Pagliuso, S. *Moral Education: Some Findings, Issues, and Questions.* Toronto: Paulist Press, 1974.
This provides a description of intervention in intermediate and secondary schools.

Pagliuso, S. *A Workbook: Understanding Stages in Moral Development.* Toronto: Paulist Press, 1977.
This is a programmed learning text intended to teach

an understanding of the stages of moral development as conceptualized by Lawrence Kohlberg.

Sullivan, E.V. *Kohlberg's Structuralism: A Critical Appraisal*
This critical analysis of Kohlberg's theory of moral development is made from the perspective of ideology critique. The author examines the limitations of structuralism as applied to the various facets of moral behavior: moral commitment, morality and the imagination, moral blindness. He then considers the implications for values education in the schools. 48 pages. 1977. $3.50 from OISE Publications Sales.

For additional information about the project, its objectives and activities, see the following articles:

Beck, C. Moral Education in Ontario Schools. *Orbit*, Vol. 2, No. 5, 1971 (Dec.), pp. 6-7.
Stager, M. and Hill, J. Moral Education Project. *Orbit*, Vol. 4, No. 2, 1973 (April), pp. 11–14.

For detailed evaluation of the project approach in one school, see:

Beck, C., Sullivan, E. and Taylor, N. Stimulating Transition to Postconventional Morality: The Pickering High School Study. *Interchange*, Vol. 3, No. 4, 1972, pp. 28–37.

Project staff have in the past held numerous conferences, conducted inservice training, provided consultation to schools and evaluated intensive programs in moral education. They will provide teachers interested in developing programs in this area with bibliographies of appropriate materials. Contact Clive Beck, Office of Graduate Studies.

During 1975-76, the project concentrated on teacher education and worked extensively with a number of Faculties of Education in Ontario. In addition to conducting a large survey on views concerning moral education, the project gathered together the work of major theorists in moral education, with a clear summary of each contributor, so that teachers and teacher educators could obtain an overview of the field. This segment of the project's work also included production of a bibliography of these major sources, an annotated list of 75 films and a description of classroom procedures and teachers' roles. A report on these 1975-76 activities was written for the Ministry of Education, which supported the work; the report, entitled *The Moral Education Project (Year 4)*, is available from OISE Publications Sales, for $3.00.

In 1976-77, the project staff were concerned with developing materials and procedures for values discussion in the classroom at many levels from primary through high school. The report on this work, entitled *Curriculum and Pedagogy for Reflective Values Education*, will soon be available in duplicated form from Clive Beck.

Pilot Project in Values Education: Informal Notes on a Project Undertaken at Land of Lakes Senior Public School
D. Dufresne, F.G. Robinson (Field Development, Northeastern Centre), L. Kehoe (Ministry of Education), N. Mason and K. Thomson (East Parry Sound Board of Education)

This document was developed co-operatively by OISE field centre staff, a Ministry consultant and personnel from the East Parry Sound Board of Education, as part of the Elementary Grades Thinking Program. It is described on page 4 and is available from either the East Parry Sound Board of Education, South River, Ontario, or the Thinking Materials Resource Centre, 28 Prince Street, St. Catharines, Ontario.

African Climates, Soils and Vegetation: A Unit for Senior Elementary Schools Developed by Means of Correlational Analysis
T. Millard (East Parry Sound Board of Education)

This document was produced in conjunction with the Elementary Grades Thinking Program. It is described on page 4 and is available either from the author (East Parry Sound Board of Education, South River, Ontario) or from the Thinking Materials Resource Centre, 28 Prince Street, St. Catharines, Ontario.

Canadian Studies Inquiry Project
J. Clemens (Ministry of Education), J.H. Love and J.P. Robinson (Field Development, Niagara Centre)

The Canadian Studies Inquiry Project, with J.H. Love as principal investigator, produced a large number of reports of interest to teachers of the intermediate division in subject areas involving Canadian concerns. The project summary report, entitled *Canadian Studies Project of the Office of Field Development: Final Report*, outlines the origin, progress and products of the project. This project was linked to the Major Thrust in Elementary School Thinking and a full listing of its products is contained in the *Catalogue* of the Thinking Materials Resource Centre; these may be ordered from the Centre (28 Prince Street, St. Catharines, Ontario). A sample of the reports and other materials developed in the Canadian Studies Inquiry Project follows.

(1) General

Canadian Studies Project of the Office of Field Development: Final Report
J.H. Love (Field Development, Niagara Centre)

This document describes the activities of the project under the headings "research and development", "consultation", "dissemination", "committees", "course design", "teaching" and "recommendations". A large number of project outputs are cited, most of which are listed in relevant sections of this report. 22 pages. 1975.

(2) Case Studies

Inquiry and Canadian Studies
J.M. Clemens (Ministry of Education), J.H. Love and J.P. Robinson (Field Development, Niagara Centre)

The monograph provides a justification for an inquiry approach to Canadian Studies curriculum design, develops a general model for inquiry, describes stages in the development of component skills underlying such models and discusses the implications of inquiry programs for teacher behavior and school organization. 44 pages. 1974.

An Analysis of Students' Ability to Perform "Case Study" Reasoning
J.P. Robinson and J.H. Love (Field Development, Niagara Centre)

This document reports Grade 4–13 student responses to a case study problem situation ("Why did Bill Jones fail?"). Statistical analysis revealed growth in respect to some component skills of the Case Study Model* (e.g. in relation to the number of alternatives generated) but, on the whole, growth in untrained subjects was remarkably slight. Certain dimensions along which student thinking *did* appear to grow were identified. 16 pages. 1975.

*This unit is a component of the Inquiry Training Program and is described on page 4.

Canadian Studies Interest Survey
J.P. Robinson and J.H. Love (Field Development, Niagara Centre)

This document is a report of a study involving students from Grades 4–13, in which choices were made between potential study topics. Each topic could be located in a three-dimensional space determined by: its occurrence in time (past, present, future); the type of content (social, political, economic); and its location in space (local, regional, national, international). Detailed statistical analyses were made and some trends were found (e.g., as students matured chronologically, interest in topics related to politics and economics in the national sphere seemed to increase). 39 pages. 1975.

Indian Studies–Indian Survival
G.A. Spence (Niagara South Board of Education)

This is a student resource book containing stories, articles and comments on and by Canadian Indians; the materials are organized around the headings: Traditional Indian Society; The Coming of the Whites; Modern Indian Society. These data provide the basis for formulation and testing of hypotheses; their use is described in *A Teacher's Guide to Accompany the Unit on Indian Survival.* The *Teacher's Guide* contains a sequence of 13 lessons for progressively developing the Case Study Model of the Inquiry Training Program (described on page) and applying it to data on Canadian Indians. In the early phases of the program the student has only to propose problems and alternatives; in later stages he has to deal with such technical questions as the reliability and relevance of data; in the final unit he is required to undertake a complete case study. *Indian Studies–Indian Survival:* 112 pages, 1975, $2.00. *Teacher's Guide:* 62 pages, 1975, $1.00.

Evaluation of an Integrated Inquiry Approach to Teaching Secondary School History (Final Report)
G.A. Spence (Niagara South Board of Education)

The report describes the procedures and results of an experimental study of the *Indian Studies–Indian Survival* unit. Two Grade 11 history classes were involved in the comparison; the instructional period lasted for approximately four weeks. It appeared that the experimental group (who received training in problem solving) learned more skills, without loss of content, and found the problem-solving unit as interesting, no more difficult and more useful than traditional content-oriented history units. Moreover, the reaction of teachers toward the design, material and pace for the unit was highly favorable. 26 pages plus bibliography. 1975.

(3) Decision-Making, Values

Ecology in Environmental Studies: A Problem-Solving Module
J. King (Lincoln County Board of Education)

This is the report of a project undertaken by the author, working in conjunction with OISE's Niagara Centre, in which he devised and tested (at the Grade 11 level) an ecology model which was to supersede a discipline-oriented conservation unit. After preliminary training in decision making (centered around the decision model of the Inquiry Training Program, described on page 4), the students were exposed to the Ecology Box and were asked to identify two ecological problems from the data in the box and to state possible solutions to these problems, using the framework of the decision-making, problem-solving process. The results appear to be generally favorable to a problem-solving approach to ecological problems. 30 pages. 1975.

An Investigation of Students' Decision-Making Skills as Applied to Past Events
J.P. Robinson and J.H. Love (Field Development, Niagara Centre).

The document reports the responses of students in Grades 4–13 to a decision situation ("What should Mr. Sawyer do?"). Analysis of the data revealed that there was an increase in the level of skill exhibited in respect to some components of the decision model (e.g., the generation of alternatives) but that there was little or no improvement in other decision skills (e.g., weighing the relative importance of criteria; considering future events). 24 pages. 1975.

A Teacher's Guide to Accompany a Unit on Values Decision-Making
G.A. Spence (Niagara South Board of Education) and J.P. Robinson (Field Development, Niagara Centre)

The Guide describes the rationale for the unit, which is designed to follow the unit on *Indian Survival* and to develop, particularly, the values dimension of decision-making. The content aspect of the program, with which the values component is totally integrated, deals with French Canada. The titles and content of the supporting booklets are:

Booklet #1: Becoming Aware of My Values
The general intent of the exercises in this first booklet is to provide brief practice in values clarification about individual rights, authority, etc., in the student's present situation.

Booklet #2: Sorting Out my Values
The intent of this booklet is to introduce moral dilemmas and gradually move to moral principles.

Booklet #3: Making Value Decisions
The purpose of this booklet is to "tie together" the skills from the previous two booklets and develop a decision model with strong value components.

Booklet #4: Content Materials Related to French Canada.
(Draft version, under revision for publication.)

This booklet contains the collection of content materials gathered for the unit. Its content is integrated with the materials in the first three booklets and is organized around the topics: New France, Rebellion of 1837, the Riel Rebellion and the Quiet Revolution.

Community Involvement Program
D.W. Brison (Field Development, Trent Valley Centre)

The major emphasis in the Community Involvement Project has been on the development and evaluation of a three-or four-credit course for Grade 12 students. In this course, a student spends a minimum of ten hours per week over the entire school year working in a community or social service (for adults and children) agency. In the agency, the student functions in a service role as part of the normal work team. In the course, also, there are (1) a related in-school portion, in which the student and his or her teacher reflect on the agency experiences and social problems in general, and (2) an independent study portion, in which the student examines a

specific topic, problem or case study. Most generally, the objectives of the course are: first, to develop a commitment to the solution of social problems and, second, to develop the skills, attitudes and knowledge needed in order to create solutions to these problems.

The program was introduced in one Peterborough school in 1972 and has expanded since then; currently, fourteen classes from nine school jurisdictions are involved in various teacher-planned adaptations of the program.

More information about the objectives and activities of the program is contained in the following:

Brison, D.W. Restructuring the School System. *Interchange*, Vol. 3, No. 3, 1972, pp. 63–73.

Brison, D.W. Out-of School Education in the Social Service Sector. *Phi Delta Kappan*, Dec. 1973, pp. 37–39.

Londerville, J. The Community Involvement Program: An Alternative Education Project. *Orbit*, Vol. 6, No. 3, 1975 (June), pp. 9–11.

Londerville, J. John Dewey Here We Come: Towards Criteria for Alternative Education Programs. *Education Canada*,, 1976 (Fall), pp. 14–19.

The following materials, developed during the course of the project, are available from Dr. Brison, Trent Valley Centre, OISE, R.R. No. 3, Peterborough, Ontario, K9J 6X4, to schools interested in planning the implementation of the program:

A list of schools using the CIP
The Community Involvement Project: An Abstract Describing an Alternative Program for High School Students
A Handbook of the CIP
Reading Resource Files
Reports on the Peterborough Project
A descriptive videotape on the CIP
A Monograph on "Thrust and Presentational Mode of CIP"
Curriculum Resource Units:
- Decision-Making Skills
- The Role of Governments–Applied Civics in the Social Sector
- Child Development

In addition, the following research report by Dr. Brian Usher, a teacher involved with the CIP, is available from OISE Publications Sales for $4.00.

Usher, B.R. *Etobicoke Community Involvement Program Evaluation: Evaluation of a Secondary School Program Involving Students in Community and Social Service Activities.* Toronto: Ontario Ministry of Education, 1977.

LANGUAGE AND COMMUNICATION

Module Making Project
H.H. Stern and R. Ullmann (Curriculum: Modern Language Centre)

This project is developing a series of independent multi-media kits to be used as supplementary materials with any of the regular French programs currently in use in Ontario's elementary and secondary schools. Each kit, which has been field-tested in approximately 25 classrooms throughout the province, is completely self-contained, including all materials necessary for presentation as well as a detailed teacher guide with suggestions for introductory and follow-up activities, pertinent background information, scripts of taped materials and a selected bibliography.

For each of the modules sold through OISE Publications Sales, the Teacher's Guide is available as a specimen examination copy for each kit, at a cost of $3.00 each.

The following modules are currently available:

Les Papillons (prepared by R. Elsass and J. Howard) is designed for beginners in French, aged 5 to 8, and is based on a simple children's story. 1972. $32.50 from OISE Publications Sales.

La Météo (prepared by R. Elsass, J. Howard and R. Ullmann) is a kit based on French radio weather reporting and is aimed at students who have completed an introductory level of French instruction. Revised Metric Edition. 1976. $26.50 from OISE Publications Sales. (Metric replacements for certain materials in the original 1973 edition are available from OISE Publications Sales for $8.75.)

Le Temps des Fêtes (prepared by R. Ullmann and J. Howard) is designed for students in Grades 6 to 9 and presents the traditional Christmas festivities as celebrated by a French-Canadian family. It includes both a French and an English tape, filmstrip and related activities. 1972. $29.00. Available only from Prentice-Hall of Canada Limited, 1870 Birchmount Road, Scarborough, Ontario.

Chansons et Chansonniers (prepared by R. Ullmann and J. Howard) is a cultural resource kit, for students in Grades 10 to 13, introducing selected French-Canadian chansonniers and their songs. It contains 3 tapes; one reproduces a typical French radio program; the second gives brief biographical sketches; and the third presents the complete songs without commentary. A class set of illustrated student handbooks and four wall posters are included. 1974. $38.00 from OISE Publications Sales.

Bienvenue à Montréal (prepared by R. Ullmann, J. Howard and E. Miron) is a tape/filmstrip presentation introducing aspects of life in the city of Montreal in the form of a one-day tour of the city and is intended for students in Grades 9 through 12. 1974. $26.00 from OISE Publications Sales.

De Chez Nous (prepared by R. Ullmann and M. Balchunas) is a cultural resource kit on Quebec City with built-in emphasis on early reading skills. It is designed for use with students in early high school. 1975. $32.75 from OISE Publications Sales.

Gilles Vigneault–L'homme et l'œuvre (prepared by R. Ullmann, S. Goodman and M. Balchunas) is a literature module intended to focus on selected songs and poetry of this popular French-Canadian chansonnier. It is designed to guide Grade 12 and 13 students in a literary appreciation of three of the works of Gilles Vigneault. 1976. $39.50 from OISE Publications Sales.

Devant le Micro (prepared by V. Argue in consultation with R. Ullmann, M. Balchunas and E. Schneiderman) is a listening module for intermediate and senior secondary school students, featuring taped interviews with teenaged Quebeckers. This kit gives students an opportunity to hear natural, colloquial Canadian speech and to learn something of the lifestyles and interests of their French-Canadian peers. 1977. $42.50 from OISE Publications Sales.

Le Temps des sucres (prepared by R. Ullmann, V. Argue, and M. Balchunas) teaches about traditional and modern ways of making maple syrup. It is intended for students aged 10–12 who have had at least one year of French instruction. 1978. $27.50 from

OISE Publications Sales.

Two additional modules—*Devant le Micro II* and *Le français parlé au Canada* have been accepted for publication by OISE.

All published modules are on display in the Modern Language Centre Materials Reference Library (10th Floor, OISE).

More information about the project and its objectives and methods can be obtained from the following publications:

Ullmann, R. *Module Handbook* (available from the Module Making Project, Modern Language Centre, OISE).

Stern, H.H. "Language Teaching Materials: The Next Stage". Rondeau, G. (Ed.). Contributions canadiennes à la linguistique appliquée. Montreal Centre Educatif et Culturel (1973) pp. 261–271.

Stern, H.H. and Weinrib, A. French-Language Teaching Modules; A New Approach to Language–Teaching Modules, *Orbit*, Vol. 2, No. 1, 1971 (Feb.) pp. 11–13.

Stern, H.H. Balchunas, M. and Ullmann, R. French Teaching Modules Today. *Orbit*, Vol. 6, No. 1, 1975 (Feb.) pp. 21–23.

Stern, H.H. Mammoths or Modules. *Times Educational Supplement*, October 1976 special insert on Modern Languages.

Project personnel conduct periodic teacher workshops and will, on request, present module demonstrations in the Toronto area.

Bilingual Education Project
M. Swain (Curriculum, Modern Language Centre)

French immersion programs—that is, programs in which English-speaking children are taught in French—have become a desirable form of bilingual education. In 1970, at the request of several school boards, the Bilingual Education Project was established to carry out a long-term study and evaluation of such programs. At present the Project's major activity involves evaluations of early total French immersion programs and of early partial and late partial French immersion programs. Other important components of the Project include test development, psycholinguistic studies, the evaluation of materials in use in immersion programs and dissemination of information relating to immersion.

At present, five school boards are participating in the Bilingual Education Project evaluation. Annual reports of the results of the evaluation of the immersion programs in these school boards, as well as related reports—including those of psycholinguistic studies, are produced each year. Test instruments have been developed for use in the Project evaluation. Two of these, the *French Comprehension Tests: Primer and Level 1*, developed by H.C. Barik, are now sold through OISE Publictions Sales. Other tests, still in the experimental stage, may be used with permission of the researchers.

The Bilingual Education Project maintains contact with educators and researchers involved in bilingual schooling across Canada (and elsewhere). The Project has produced a list of *French Immersion Programs in Canada* which describes immersion programs in existence in all the provinces and specifies the names and addresses of "contact people", that is, persons involved in curriculum and/or evaluation aspects of each program listed. This document is available from the Project.

A Survey of French Immersion Materials (K-6) inventories, describes and provides evaluative comments on curriculum materials in use in the elementary grades of early French immersion programs. It is available from OISE Publications Sales for $5.50.

The other materials, research reports, and papers listed below (which represent only a portion of all project outputs) may be obtained as indicated. For further information and/or materials, please contact Sharon Lapkin, Liaison and Information Officer, Bilingual Education Project, OISE.

Selected Project Outputs

Articles marked with a single asterisk in the following list have been published in journals or reviews and documents marked with two asterisks appear in published books. In both these cases, interested readers should consult the published sources, since the Bilingual Education Project does not have copies available. The Project will provide a full list of outputs to anyone requesting it; this provides further information about obtaining unpublished materials.

I. *Selected Program Evaluation Documents*

** Swain, M. & Barik, H.C. *Five Years of Primary French Immersion: Annual Reports of the Bilingual Education Project to the Carleton Board of Education and the Ottawa Board of Education up to 1975.* Toronto: Ontario Institute for Studies in Education 1976 (available from OISE Publications Sales $5.00).

Barik, H.C., & Swain, M. Bilingual Education Project: Evaluation of the 1975-76 French Immersion Program in Grades 3–5, Ottawa Board of Education and Carleton Board of Education. Toronto: The Ontario Institute for Studies in Education, 1976 (mimeo).

Barik, H.C., & Swain, M. Follow-up on French immersion: The Toronto Study through Grade Four. *Scientia Paedagogica Experimentalis*, 1978, *15* (2) (in press).

Barik, H.C., & Swain, M. Evaluation of a bilingual education program in Canada: The Elgin Study through Grade Six. *Bulletin CILA*, 1978, No. *27* (in press).

Barik, H.C., & Swain, M. Report to Elgin County Board of Education Re: Evaluation of the 1976-77 Partial French Immersion Program in Grades 5–7. Toronto: The Ontario Institute for Studies in Education, 1977 (mimeo).

* Swain, M. L2 and Content Learning: A Canadian Bilingual Education Program at the Secondary Grade Levels. Paper prepared for Brière, E. (Ed.), *Language Development in a Bilingual Setting* (in press).

Swain, M., & Lapkin, S. Beginning French Immersion at Grade 8. *Orbit*, 1977, *39*, 10–13.

Swain, M., & Barik, H.C. The Role of Curricular Approach, Rural-urban Background, and Socio-economic Status in Second Language Learning: The Cornwall Area Study. *Alberta Journal of Educational Research* (in press).

II. *Selected General Documents*

** Swain, M., & Bruck, M. (Guest Eds.) Proceedings of the Research Conference on Immersion Education for the Majority Child, *The Canadian Modern Language Review*, Special Issue 1976, *32*, entire No. 5.

* Swain, M. Bilingualism Through Education: Dreams & Realities. *Manitoba Modern Language Bulletin*, 1977, *11* (3), 3–10.

* Swain, M. Bilingualism—Some Non-Political Issues. *Multiculturalism, 1* (3), 1977, 13–16.

Swain, M. French Immersion: Early, Late or Partial? *Canadian Modern Language Review*, 1978 (in press).

III. *Selected Psycholinguistic Documents*

* Barik, H.C., & Swain, M. A Longitudinal Study of Bilingual and Cognitive Development. *International Journal of Psychology*, 1976, vol. *11* (4) 251–263.

Lapkin, S., & Swain, M. The Use of English and French Cloze Tests in a Bilingual Education Program Evaluation. *Language Learning*, 1977, *27*, 2 (in press).

* Chaudron, C. Teacher's Priorities in Correcting Learners' Errors in French Immersion Classes. *Working Papers on Bilingualism*, 1977, *12*, 21–44.

* Harley, B., & Swain, M. A Descriptive Approach to French Immersion Speech: Focus on the Verb System. Toronto: The Ontario Institute for Studies in Education, 1977 (mimeo).

IV. *French Tests (designed for immersion)*

Barik, H.C. *French Comprehension Test, Primer* (Test and Test Manual). Toronto: The Ontario Institute for Studies in Education, 1976.
(available from OISE Publications Sales, $11.25 for packages of 35 tests, $3.25 for Test Manual).

Barik, H.C. *French Comprehension Test, Level 1* (Test and Teacher's Manual). Toronto: The Ontario Institute for Studies in Education, 1975 (Teacher's Manual revised, 1976).
(Available from OISE Publications Sales, $11.25 for packages of 35 tests, $3.25 for Test Manual).

Tests de lecture, 2e, 3e, 4e, 5/6e
Story Completion Tests in French (5e, 6e, 7e)
Tests de compréhension aurale (6e, 7e)
Tests de compréhension de l'écrit (6e, 7e)

V. *Jeux linguistiques*

These grammar games are designed for use in grades K-4 of intensive or immersion programs, and are also helpful for the later grades of core French programs.
(Available from OISE Publications Sales, $4.00).

Teaching of English as a Second Language Project
Franco-Ontarian Centre, Office of Field Development

With the support of the Ministry of Education's Learning Materials Development Plan, certain materials designed to meet the Ontario-wide need for a teaching package for English as a second language are being revised. The original materials were developed, in co-operation with Sister M. McCoy and the Sudbury District Roman Catholic Separate School Board, to meet the needs of the French-speaking elementary school population of Ontario.

Existing materials were inappropriate for this group, which had considerable knowledge of English by the time they entered primary school; such materials had been designed either for first-contact students or for English speakers.

Although revisions are not yet complete, validation copies for limitied use are available to selected schools through Dr. R. Lamerand, Franco-Ontario Centre.

Projet pour l'enseignement de l'anglais comme langue seconde
Centre d'études franco-ontariennes, Bureau du Développement Régional

Avec l'aide du Ministère de l'Education, certains matériels pédagogiques conçus pour rencontrer les besoins au niveau de la Province pour l'enseignement de l'anglais comme langue seconde sont en voie de révision. Les premiers matériels ont été développés en coopération avec Soeur M. McCoy du Conseil scolaire des écoles séparées de Sudbury et sont destinés aux écoles élémentaires franco-ontariennes.

Le matériel disponible n'était pas approprié pour ce groupe d'élèves qui avaient déjà une connaissance importante de l'anglais lors de leur entrée à l'école primaire. Ce matériel avait été préparé pour les élèves qui rencontraient l'anglais pour la première fois ou pour les élèves de langue maternelle anglaise.

Rien que les révisions ne soient pas encore complétées, des copies préliminaires, à utiliser pour fin de validation, peuvent être obtenues par l'entremise du docteur R. Lamerand.

F1A2 Language Teaching Project
R. Lamerand and Y. Ross (Franco-Ontarian Centre, Office of Field Development)

This project, one of several related projects in progress within the Franco-Ontario Centre, focusses on the development of situational-functional teaching methods for the two official languages spoken by Franco-Ontarian students. The project uses a teacher-centered model of curriculum development, in which the professional development of teachers is the key factor. Work in français and anglais has been carried out, so far, principally in the Sudbury area for Grades 9 and 10; work at the Grade 8 level in Welland is planned.

Currently, modules for français and anglais for the Grades 9 and 10 levels, and a methodological outline about how to use the materials, are being field-tested, with plans for publication by OISE in the fall of 1978. Teachers interested in learning more about these materials should contact Y. Ross, Franco-Ontarian Centre. In addition, two model games in language skills (one to be published along with the other materials) can be seen in the Franco-Ontarian Centre by interested teachers.

F1A2–Projet pour l'enseignement des langues
Raymond Lamérand et Yvette Ross (Centre d'études franco-ontariennes, Bureau du Développement Régional)

Ce projet fait partie d'un ensemble de travaux connexes en cours de réalisation à la section franco-ontarienne. Il se concentre sur le développement de méthodes d'enseignement utilisant des situations réelles pour les deux langues officielles parlées par les élèves franco-ontariens. Le projet suit un modèle d'élaboration de programmes centrés sur l'enseignant dont la formation pédagogique est le facteur-clé.

Jusqu'à présent, un travail en français et en anglais a été réalisé, principalement dans le région de Sudbury, pour les élèves de 9ème et de 10ème année. Un travail identique est prévu pour ceux de 8ème année de Welland.

On teste actuellement sur le terrain des modules pédagogiques de français et d'anglais pour les niveaux de 9ème et de 10ème année ainsi qu'un plan méthodologique sur la façon de les utiliser. L'OISE envisage leur publication à l'automne 1978. Les professeurs intéressés par ce matériel et désireux d'en savoir davantage pourront contacter Yvette Ross, à la section franco-ontarienne. De plus, ces professeurs pourront essayer deux jeux-modèles visant à développer les aptitudes linguistiques des élèves (l'un de ces jeux sera publié avec les autres documents).

Language Enrichment Modules for French-Language Ontarian Schools
R. Mougeon and M. Canale (Franco-Ontarian Centre, Office of Field Development)

The aim of this project is the development of a series of language enrichment modules for anglais and formal varieties of français at both the elementary and secondary levels in Franco-Ontarian schools.

Five modules for anglais were produced. Eight modules for français have been produced so far and several more are anticipated. The anglais modules were based on two diagnostic reports on English language acquisition by two groups of Franco-Ontarian students from Welland and Sudbury. The français modules are based on a series of diagnostic reports on French language acquisition by the same two groups and by a third group of Franco-Ontarian students from Rayside/Azilda. Because the modules address themselves to the language needs of these particular groups, they cannot be considered to be directly generalizable to all Franco-Ontarian students: i.e., other students may differ from those in Welland, Sudbury and Rayside, in the proportions of various types of errors they make and in the developmental levels at which these appear. However, it is likely that there will be considerable overlap in the general nature of the language needs of other Franco-Ontarian students. Consequently, their teachers may find the exercises and drills in the project modules to be useful in planning the design of similar modules of their own.

Teachers interested in seeing the modules produced to date (and listed below) should contact Dr. Mougeon or Mr. Canale, Franco-Ontarian Centre.

English Modules

Mougeon, R., Mougeon, F. and Carroll, S. The Article "The". 1975. 11 pp.

Mougeon, R. and Carroll, S. The Grammatical Difficulties of Franco-Ontarian Children with Respect to Certain English Prepositions of Place. Part 1. 1975. 12 pp.

Carroll, S., Seshadri, C.K. and Mougeon, R. The Grammatical Difficulties of Franco-Ontarian Children with Respect to Certain English Prepositions of Place. Part 2. 1975. 9 pp.

Seshadri, C.K., Carroll, S. and Mougeon, R. Verb Errors of Past Tense. Part 1: Simple Past. 1975. 14 pp.

Seshadri, C.K., Carroll, S. and Mougeon, R. Verb Errors of Past Tense. Part 2: Perfect. 1976. 10 pp.

French Modules

Tracy, P., Mougeon, R., Canale, M. et Bélanger, M. 1977. Unité pédagogique No. 1: l'usage de la préposition *SUR* par les élèves du secondaire. 35 pages.

Bélanger, M., Canale, M., Mougeon, R. et Tracy, P. 1977. Unité pédagogique No. 2: l'usage de la préposition *SUR* par les élèves de l'élémentaire. 44 pages.

Mougeon, R., Canale, M. et Bélanger, M. 1977. Unité pédagogique No. 3: l'usage des auxiliaires *AVOIR* et *ETRE* aux temps composés par les élèves du secondaire. 32 pages.

Canale, M., Mougeon, R., Bélanger, M. et Beniak, E. 1977. Unité pédagogique No. 4: l'usage des auxiliaires *AVOIR* et *ETRE* aux temps composés par les élèves de l'élémentaire. 39 pages.

Beniak, E., Mougeon, R., Bélanger, M. et Canale, M. 1977. Unité pédagogique No. 5: l'usage de la préposition *POUR* par les élèves du secondaire. 54 pages.

Beniak, E., Bélanger, M., Canale, M. et Mougeon, R. 1977. Unité pédagogique No. 6: l'usage de la préposition *POUR* par les élèves de l'élémentaire. 45 pages.

Beniak, E., Côté, N., Canale, M. et Bélanger, M. Aspects de l'usage des prépositions *A, EN* et *DANS* par les élèves du secondaire. 50 pages.

Bélanger, M., Beniak, E., Côté, N. et Canale, M. Aspects de l'usage des prépositions *A, EN* et *DANS* par les élèves du secondaire. 50 pages.

Développement d'unités pédagogiques linguistiques pour les écoles ontariennes de langue française.

R. Mougeon et M. Canale (Centre d'études franco-ontariennes, Bureau du Développement Régional.)

Ce projet a pour but de développer une série d'unités destinées à l'enseignement de l'anglais et du français formel aux paliers élémentaire et secondaire dans des écoles de langue française de l'Ontario. On a produit un total de cinq unités pour l'enseignement de l'anglais. Nous avons déjà produit huit unités pour l'enseignement du français formel et plusieurs autres sont en préparation.

Les unités pour l'enseignement de l'anglais reposent sur deux rapports diagnostiques consacrés à l'acquisition de l'anglais par deux groupes d'étudiants franco-ontariens de Welland et Sudbury. Les unités françaises sont basée sur une série de rapports diagnostiques sur l'acquisition du français par les deux groupes d'élèves mentionnés plus haut et par un groupe d'élèves franco-ontariens de Rayside. Comme les unités sont destinées à répondre aux besoins langagiers des élèves de ces localités, on ne peut prétendre qu'elles sont valables pour tous les étudiants franco-ontariens. Toutefois nous pensons que beaucoup d' "erreurs" des élèves de Welland, Sudbury et Rayside sont aussi commises par les élèves franco-ontariens d'autres localités, bien qu'il soit probable que les taux de fréquence d'erreurs varient d'une localité à l'autre. Nous pensons donc que le matériel pédagogique que nous produisons pour les élèves de Welland, Sudbury et Rayside pourrait être utile aux enseignants d'autres localités, qui désirent préparer leur propre matériel pédagogique.

Les enseignants qui désireraient recevoir certaines de ces unités (cf. la liste plus bas) peuvent s'adresser à Raymond Mougeon ou à Michael Canale, Centre d'études franco-ontariennes, OISE.

Unités anglaises

Mougeon, R., Mougeon, F. and Carroll, S. The Article "The". 1975. 11 pp.

Mougeon, R. and Carroll S. The Grammatical Difficulties of Franco-Ontarian Children with Respect to Certain English Prepositions of Place. Part 1. 1975. 12 pp.

Carroll, S., Seshadri, C.K. and Mougeon, R. The Grammatical Difficulties of Franco-Ontarian Children with Respect to Certain English Prepositions of Place. Part 2. 1975. 9 pp.

Seshadri, C.K., Carroll, S. and Mougeon, R. Verb Errors of Past Tense. Part 1: Simple Past. 1975. 14 pp.

Seshadri, C.K. Carroll, S. and Mougeon, R. Verb Errors of Past Tense. Part 2: Perfect. 1976. 10 pp.

Unités françaises

Tracy, P., Mougeon, R., Canale, M. et Bélanger, M. 1977. Unité pédagogique No. 1: l'usage de la préposition *SUR* par les élèves du secondaire. 35 pages.

Bélanger, M., Canale, M., Mougeon, R. et Tracy, P. 1977. Unité pédagogique No. 2: l'usage de la préposition *SUR*

par les élèves de l'élémentaire. 44 pages.

Mougeon, R., Canale, M. et Bélanger, M. 1977. Unité pédagogique No. 3: l'usage des auxiliaires *AVOIR* et *ETRE* aux temps composés par les élèves du secondaire. 32 pages.

Canale, M., Mougeon, R., Bélanger, M. et Beniak, E. 1977. Unité pédagogique No. 4: l'usage des auxiliaires *AVOIR* et *ETRE* aux temps composés par les élèves de l'élémentaire. 39 pages.

Beniak, E., Mougeon, R., Bélanger, M. et Canale, M. 1977. Unité pédagogique No. 5: l'usage de la préposition *POUR* par les élèves de l'élémentaire. 54 pages.

Beniak, E., Bélanger, M., Canale, M. et Mougeon, R. 1977. Unité pédagogique No. 6: l'usage de la préposition *POUR* par les élèves du secondaire. 54 pages.

Beniak, E., Côté, N., Canale, M. et Bélanger, M. Aspects de l'usage des prépositions *A, EN* et *DANS* par les élèves du secondaire. 50 pages.

Bélanger, M., Beniak, E., Côté, N. et Canale, M. Aspects de l'usage des prépositions *A, EN* et *DANS* par les élèves du secondaire. 50 pages.

French Language Materials to Introduce the Metric System to Franco-Ontarian Schools
Franco-Ontarian Centre: Office of Field Development

These materials, prepared collaboratively by OISE and AEFO (Association des Enseignants franco-ontariens) personnel, consist of seven booklets and a package of support materials intended for use in teacher workshops given in French.

They are available from the Association des enseignants franco-ontariens, 1427 Ogilvie Street, Ottawa K1J 8M7.

Matériel pédagogique pour l'enseignement du système métrique aux élèves franco-ontariens
Centre d'études franco-ontariennes: Bureau du Développement Régional

Ce matériel, préparé en collaboration avec l'OISE et l'AEFO (Association des enseignants franco-ontariens), comprend sept brochures et une collection de matériel de soutien que les enseignants pourront utiliser en cours d'atelier.

On peut se les procurer à l'Association des enseignants franco-ontariens, 1427 chemin Ogilvie, Ottawa, K1J 8M7.

Canadian Poets on Tape
E. Toppings, producer (Editional Division)

These tapes are half-hour programs, in which Earle Birney, Irving Layton, Dorothy Livesay, Gwendolyn MacEwen, Eli Mandel, Al Purdy, James Reaney, F.R. Scott, Raymond Souster and Miriam Waddington read their work, recall experiences and talk about making poems and about writing as part of Canadian life.

The tapes are available only from Van Nostrand Reinhold Ltd., 1410 Birchmount Road, Scarborough, Ontario, M1P 2E7. Full set of 10 tapes, $89.95 net; full set of 5 cassettes, $44.95 net; single tape or cassette, $9.95 net. Each cassette (or tape) includes two poets: Birney/Layton; MacEwen/Livesay; Mandel/Purdy; Souster/Scott; Waddington/Reaney.

Canadian Writers on Tape
E. Toppings, producer (Editorial Division)

This series consists of half-hour conversations with Morley Callaghan, Hugh Garner, Margaret Laurence, Hugh MacLennan, Mordecai Richler and Sinclair Ross, who talk about themselves, their books, their attitudes toward literature, and the Canadian experience.

Tapes and cassettes are available only from Van Nostrand Reinhold Ltd., 1410 Birchmount Road, Scarborough, Ontario M1P 2E7. Full set of 6 tapes, $54.95 net; full set of 3 cassettes, $27.50 net; single tape or cassette, $9.95 net. Each cassette includes two writers: Callaghan/Garner; Laurence/MacLennan; Richler/Ross.

A Curriculum in Film
J. Katz, C. Oliver and F. Aird (Curriculum)

This teacher's guide presents, by example, one approach to the study of film. It includes a description of and materials from a thematically oriented film-study project, integrating the teaching of film with the study of literature. (Four films produced in connection with this "Thematic Approach to Film and Literature" are described in Section II of the present report.) 130 pages. 1972. $5.75.
OISE Publications Sales.

The Uses of Film in the Teaching of English
English Study Committee (Field Development)

In this 1971 report, the Media Sub-Committee of the English Study Committee deals with helping the English teacher incorporate the teaching of film into his program. It includes practical suggestions about organizational planning with respect to facilities, sources and budgets. In addition, it suggests profitable ways to use film at the elementary, secondary and post-secondary levels. 184 pages. 1971. $6.25.
OISE Publications Sales.

Rhetoric: A Unified Approach to English Curricula

This 1970 report of the Rhetoric Sub-Committee of the English Study Committee recommends and describes an English program that is unified by rhetorical considerations. It deals with the need for such an approach in the light of present problems and it includes course, unit and lesson plans at various educational levels, recommendations for further study and implementation, and a bibliography of rhetorical studies. 188 pages. 1970. $5.90.
OISE Publications Sales.

Now See Hear! Applying Communications in Education
D.S. Abbey (Adult Education)

This monograph presents some of the more intriguing aspects of communications theory—such as transactional analysis and body language—suggesting means of developing communications skills in the classroom and elsewhere. The author suggests ways that verbal and non-verbal modes of communication can be interpreted and used. In addition, he explores some of the considerations that go into selecting media appropriate to given learning situations and methods for developing the ability of students and others to extract and exchange information. 74 pages. 1973. $3.25.
OISE Publications Sales.

Conceptual Skills Kit
C. Bereiter (Applied Psychology) and E. Regan (Curriculum)

These materials were developed prior to the launching of the Elementary School Thinking Program and strongly influenced some parts of that program dealing with cognitive stimulation in the primary grades. They are described on page 5.

Critical Reading Monograph
F.G. Robinson (Field Development Northeastern Centre)

These materials were developed as part of the Elementary School Thinking Program and are described on page 2.

Critical Reading
Carolyn Boire (East Parry Sound Board of Education)

This publication was developed as an offshoot of the Elementary School Thinking Program and is described on page 2.

MATHEMATICS

K-6 Mathematics Project
C. Carlow (Curriculum)

This project involves the development of teacher guides, combined with student activity materials, in four topical strands: Estimating, Measurement, Algorithms-Computation and Geometry. The objective is to work co-operatively with teachers in the Province to develop a complete yet open-ended mathematics program of proven, in-depth excellence.

The *estimating* strand is most completely developed at present. Its purpose is to provide a systematic, intuitive foundation for meaningful learning in the other strands. Four books intended for Grades K-1-2, two for 2-3-4 and one for 4-5-6 are available at present.

All of the materials are designed to provide three levels of assistance to the teacher: complete sample lesson plans, enriched lesson outlines (similar to current textbook materials) and suggested topics to be developed by the teacher—perhaps with the help of other source materials. The best of the teacher contributions may then be published and shared with others.

The materials are available free of charge, as long as the limited supply lasts, to any school in which the principal is interested and at least four teachers are willing to help evaluate and contribute to the project. Schools wishing to participate in the project should contact Dr. Carlow, Department of Curriculum.

The project provides in-service training and consultation to participants as well as demonstration teaching when it is requested. Dr. Carlow analyses items submitted by teachers and prepares evaluation reports for each grade level involved.

Fun With Mathematics
F.G. Robinson (Field Development, Northeastern Centre) and S. Avital (Israel Institute of Technology)

In September, 1978, publication of the bulletin *Fun With Mathematics* will resume; it was previously published and sold by OISE between 1973 and 1975. The bulletin is intended for (1) all children in grades 5–8, (2) brighter children in grade 4, or (3) older children taking a general math course or a remedial arithmetic course.

Fun With Mathematics is designed to provide supplementary material—problems, games and investigations—for individual or class use.

Eight issues of *Fun With Mathematics* will be published during the 1978-79 school year. It will be sold to schools in sets of 10 copies ($1.50 for a set of 10 copies of a single issue; $10.00 for a year's subscription). Contact Mary Stager, Office of Research and Development.

Basic Skills Mathematics Program
Peterborough County Board of Education and Trent Valley Centre

This program, developed jointly by the Peterborough County Board of Education and Trent Valley Centre, includes a detailed continuum of objectives, accompanying pools of test items, placement tests and a handbook for their use. A junior division problem-solving unit is also available.

The program is printed by Donco Printers, Kingston.

For further information about the program, contact Mr. James McNabb, Superintendent, Peterborough County Board of Education, or Dr. K.A. Leithwood, Department of Curriculum, OISE.

Planning Curriculum Changes: A Model and Case Study (see p. 7) describes a model for planned improvement of the curriculum using the development, implementation and evaluation activities associated with the above program as examples to illustrate major features of the model.

The High School Mathematics Course—Field Trial Version I

These computer-assisted instruction materials were developed as part of the Individualization Project which is described on page 22.

Problem Solving in Mathematics: Experimental Materials for Grades 5–9
F.G. Robinson (Field Development, Northeastern Centre)

These materials were developed as part of the Elementary School Thinking Program and are described on page 2.

"Can You Draw Me a Picture?"
F.G. Robinson (Field Development, Northeastern Centre)

This article from *The Educational Courier* is described on page 3.

Systems Problems: Experimental Materials for Grades 5–8
F.G. Robinson (Field Development, Northeastern Centre)

This material was developed as part of the Elementary School Thinking Program and is described on page 3.

Variables, Symbols and Equations: Experimental Materials for Grades 5–9
G. Evans (formerly of Applied Psychology) and J.P. Robinson (Niagara Centre)

This material was developed as part of the Elementary School Thinking Program and is described on page 3.

Classification and Logic
F.G. Robinson (Field Development, Northeastern Centre)

This monograph was produced as part of the Elementary School Thinking Program and is described on page 5.

Measurement Monograph
A. Daymond, D. Knight, S. Pasko (East Parry Sound Board of Education), F.G. Robinson (Field Development, Northeastern Centre),

D.E. Story (Ministry of Education) and R.W. Kenzie (Measurement, Evaluation and Computer Applications)

This monograph was produced as part of the Elementary School Thinking Program and is described on page 5.

Ordering
F.G. Robinson (Field Development, Northeastern Centre)

This monograph was produced as part of the Elementary School Thinking Program and is described on page 5.

Rate and Ratio
J.P. Robinson and H. Zamkov (Field Development, Niagara Centre) and F.G. Robinson (Field Development, Northeastern Centre)

These materials for students, and an accompanying Teacher's Manual, were developed as part of the Elementary School Thinking Program and are described on page 5.

Objectives for Mathematics Learning; Some Ideas for the Teacher
S. Avital (Measurement and Evaluation) and S. Shettleworth

This monograph deals with the objectives of mathematics instruction, mainly in junior and senior high schools, and it provides a model of the various levels of mathematical thinking and descriptions of behaviors typical of these levels. This model enables teachers to specify the depth of understanding (ranging from recognition and recall, through algorithmic thinking and generalization, to higher-level mathematical performance) and includes many problems to test learning at the various performance levels. 57 pages. 1968. $3.75
OISE Publications Sales.

Intermediate Mathematics Methodology
Intermediate Mathematics Methodology Committee (Field Development)

This 1968 report of the Intermediate Mathematics Methodology Committee explains and illustrates a variety of instructional methods; it is not intended to do away with present instructional methods, but rather to stimulate teachers to examine their methods of relating to new curriculum content. The Committee also makes some recommendations, both for change within the existing framework and for long-range planning, concerning instructional methods, evaluation, instructional environment, teacher training and school organization. 93 pages. 1968. $3.50
OISE Publications Sales.

Geometry: Kindergarten to Grade 13
K-13 Geometry Committee (Field Development)

In this report, the K-13 Geometry Committee proposes an innovative structure for the entire school geometry program and makes detailed suggestions concerning topics to be covered at the primary, intermediate and senior stages. The report includes a series of recommendations concerning the sequence of implementation of the Committee's proposals. 118 pages. 1967. $4.35

K-13 Mathematics: Some Non-Geometric Aspects
K-13 Arithmetic-Algebra Study Committee (Field Development)

This report of the K-13 Arithmetic-Algebra Study Committee examines the essentially non-geometric aspects of school mathematics curricula in Ontario. The report, published in two parts, focusses on five areas identified as requiring immediate and sustained attention. *Part I: Statistics and Probability*, describes the Commitee's views on objectives and curriculum development and outlines in detail the structure, sequence, and sample content of a possible K-13 curriculum in probability and statistics. *Part II: Computing, Logic, and Problem-Solving*, examines the place of these areas of mathematics in the curriculum and includes both a suggested (outline for introducing vectors and matrices at a very early level and examples of effective problem sequences

Part I: 56 pages. 1970. $3.25
Part II: 61 pages. 1971. $3.60
OISE Publications Sales.

SCIENCE

Enquiry Materials in Science
F.M. Connelly, M. Finegold and M.W. Wahlstrom (Curriculum)

Most of the materials produced by the "Patterns of Enquiry" project have been developed from papers prepared within the framework of summer workshops for science teachers.

The following curriculum materials, two units in biology and two in physics, have been developed and extensively field-tested by the project. These units may be integrated into existing courses or may form the basis for a semester-long or year-long course. All of the curriculum units, which are available from OISE Publications Sales, have both student and teacher editions. The student book contains excerpts from original writings of scientists, necessary background material and questions to guide discussion. The teacher's manual for each unit contains suggested answers to the questions as well as analysis of the excerpts.

Hominid Evolution: Theories and How They Are Formulated (by G. Connelly, edited by B. Kilbourn)

The fascinating problems involved in establishing man's ancestry form the content basis that introduces students to key concepts in science and their interrelationship: assumption, fact, evidence, inference, interpretation. Grades 9–13. 1976. Student book, $4.00; teacher's manual, $2.50

From Visual Rays to Particles: The Development of Theory in Optics (by M. Finegold)

The work of major contributors to the study of optics spanning the centuries from Euclid to Newton illustrates how a scientist's "guiding conception" (assumptions and intellectual orientation) governs all aspects of his investigation. Grades 11–13. 1976. Student book, $3.50; teacher's manual, $2.50.

Particles versus Waves: Two Explanations for the Transmission of Light (by M. Finegold)

A sequel to the preceding unit. Two competing theories—those of Newton and of Huygens—are extensively analyzed and compared to show in depth the implications of contrasting "guiding conceptions". Grades 12-13. 1976. Student book, $3.50; teacher's manual, $2.50.

Honey Bee Communication: Two Explanations for Animal Behavior (by project staff)

Bees do somehow communicate to other bees information about food sources. The debate between the "dance language" explanation and the "olfaction" explanation

emphasizes questions of validity of experimental data. Grades 9–11. 1976. Student book, $3.50; teacher's manual, $2.50.

In addition, the project has produced the following materials, all available through OISE Publications Sales:

Classifying the Chemical Elements: A Puzzle Based on the Periodic Table (by H. Oliver and M. Finegold)

This problem-solving game introduces high school chemistry students to the chemical elements. Sets of cards representing the elements (or substances once thought to be elements) form the basis of the puzzle. Students, in working out a defensible scheme for grouping cards, learn about the principles of classification. The cards are accompanied by suggestions for ways to introduce the problem and for games students can play on their own. 1976. 12 sets of cards, $22.50.

Enquiry Teaching in Science: A Handbook for Secondary School Teachers (by F.M. Connelly, M.W. Wahlstrom, M. Finegold and F. Elbaz)

This handbook is an important adjunct to the units described above, inasmuch as it deals with practical strategies for implementing the enquiry method in the classroom: classroom setup, the teacher's role, introducing the discussion, structuring a question sequence, evaluating student work and evaluating the program. Transcripts of actual classroom discussion are analyzed to illustrate major emphases. 1977. $4.25.

Scientific Enquiry and the Teaching of Science (by F.M. Connelly, M. Finegold, J. Clipsham and M.W. Wahlstrom)

This describes the conceptual basis of the approach of the "Patterns of Enquiry" project to secondary school science instruction and demonstrates how it translates into classroom practice. This approach involves leading students toward an understanding of the nature of scientific investigation in itself. Through study and guided discussion of the actual writings of major investigators, both historic and contemporary, students gain a grasp of the pattern of a scientific enquiry and the intellectual skills necessary to analyze and assess resultant knowledge claims. 1977. $4.25.

All of the above materials are on display as part of the Thinking Materials Resource Centre (see page 1).

A number of articles have been published during the course of the project and more information about the general approach can be obtained from them:

Connelly, F.M. The Patterns of Enquiry Project: An Overview. *The Crucible,* March 1973.

Olson, J.D. Enquiry into Enquiry in the Classroom. *The Crucible,* May 1973.

Binns, R.W. Patterns of Enquiry: Textual Analysis of a Classroom Discussion Unit on Bee Feeding Behavior. *The Crucible,* June 1973.

Finegold, F.M. Instructional Goals and Classroom Reality: A Limited Analysis. *The Crucible,* September 1973.

Clipsham, J. Goals and Means in Courses on Science and Society. *The Crucible,* September 1974.

In addition, a film "Enquiry into Enquiry" (16mm., sound, color, 23 minutes), together with discussion materials for use with groups of science teachers, is available on loan from the OISE Library's Audio-Visual Department. The film describes a technique for the use of the enquiry materials.

The Improvement of Science Fairs
H.G. Hedges, L.A. Popp (Niagara Centre) and F.G. Robinson (Field Development, Northeastern Centre)

The purpose of this study and report was to suggest a systematic way for the improving of science fairs and particularly of the entries that students make for these fairs. The report contends that the science components of entries and exhibits should be the significant basis for evaluation and recommends a five-level system for classifying entries on the basis of the science component in respective projects. The proposal also provides a logical plan for integrating the five-level science approach into the judging scheme for science fairs.

This report is available free of charge from the Thinking Materials Resource Centre, 28 Prince Street, St. Catharines. Ontario, L2R 3X7.

Landscape: Man and His Forests
R. Pierce (Measurement, Evaluation and Computer Applications)

The nucleus of this kit is the film *Landscape* (28 minutes, color, 16mm.), produced by OISE for the Ministry of Natural Resources. The film was designed to present insight into man's intervention into the natural forest cycle and to stimulate discussion on forest resources management among 11-to-15-year-old students. The "Landscape Kit" includes the film, a teacher's guide, the script of the film, 23 color stills from the film with explanatory captions, and nine booklets produced by the Ministry of Natural Resources.

The kit is available from OISE Publications Sales at a cost of $145.00; the print materials are available separately at a cost of $25.00.

An evaluation of the kit is provided by the publication *An Evaluation of Man and His Forest,* by Leslie D. McLean. 76 pages. 1972. Available from the Department of Measurement, Evaluation and Computer Applications.

The Changing Resource
R. Pierce (Measurement, Evaluation and Computer Applications)

This 28-minute color film, Teacher's Guide and support and project materials illustrate two different examples of effective land and resource management approaches: (1) a farmer on private land, adapting to what the land can naturally offer; and (2) a collective land-use plan evolved out of necessity by many different vested-interest groups, all using resources in a semi-wilderness (Temagami) administered by the Province. Land use planning is considered in the light of the earth itself as a changing resource. This package, produced for the Ontario Ministry of Natural Resources, is intended to be used in Grades 9–13 and by community groups, community colleges and universities.

The complete package (film, Teacher's Guide and resource materials) is sold through OISE Publications Sales. 1977. $210.00. Extra sets of the resource materials only are available at a cost of $85.00.

Experimental Model—Physical Science
F.G. Robinson (Field Development, Northeastern Centre), J.P. Robinson (Field Development, Niagara Centre) and J.C. MacBean (Niagara South Board of Education)

This set of lesson plans and accompanying student's workbook were developed as part of the Elementary School Thinking Program and are described on page 3.

Inquiry Training Program
F.G. Robinson (Field Development, Northeastern Centre), J.A. Tickle (Niagara South Board of Education) and D.W. Brison (Field Development, Trent Valley Centre)

Science teachers may be interested in several components of the Inquiry Training Program, which was developed as part of the Elementary School Thinking Program. Two documents, *Inquiry Training: Fusing Theory and Practice*, and *Inquiry Training Program: Teacher's Background Reading* (Book I and Book II), are described on page 2.

Children's Experimental Thinking
H.G. Hedges (Field Development, Niagara Centre), W.R. Kenzie (Measurement, Evaluation and Computer Applications), J.P. Robinson (Field Development, Niagara Centre) and F.G. Robinson (Field Development, Northeastern Centre)

This monograph was produced as part of the Elementary School Thinking Program and is described on page 3.

Self-Directed Inquiry
W.R. Kenzie (Measurement, Evaluation and Computer Applications)

Much of the self-directed inquiry material is directed toward development of a basis for scientific reasoning in young children. The materials were produced as part of the Elementary School Thinking Program and are described on page 6.

Teaching a Model for Experiments
D.E. Story (Ministry of Education) and F.G. Robinson (Field Development, Northeastern Centre)

This material was developed as part of the Elementary School Thinking Program and is described on page 3.

THE ARTS

Arts and Humanities Project: Themes and Comparisons in Canadian and European Experience
I. Winchester and E. Biener (History and Philosophy of Education)

This project involved the development of methods, materials and procedures for an innovative and interdisciplinary approach in the Humanities and the Arts. Through work with teachers, students, coordinators and principals, it became apparent that it is valuable to introduce and explore themes and topics which are essential to an understanding of characteristically Canadian concerns.

Consequently, the instructional and curricular approach of the project was designed: (1) to refine the students' sensibility by improving ability to talk about art through imaginative encounters with artistic productions; (2) to help students in acquiring cultural literacy by teaching them to "read" cultural contexts—a necessary condition to an appreciation of Canadian themes and concerns; and (3) to provide broad but illuminating historical and cultural perspectives to encourage students to perceive and explore a variety of themes illustrated by past and present art, including contemporary value issues and debates both within and outside of Canada. As well as producing materials for teachers—instructional manuals and curriculum units which are thematically organized collections of slides linked with appropriate anthologies of reading and viewing materials—the project has produced materials for use in graduate instruction.

Materials developed to date have been tried out in three high schools and, largely due to the project's combined visual and cognitive approach, students have made considerable progress in acquiring a basic cultural literacy.

The most completely developed unit is "The White Man's Point of View: A Cross-Cultural Study in Prejudice". This collection of slides and a bibliography of related materials is available through the Department of History and Philosophy of Education.

Before supplying these and other bibliographic materials, the Department staff wish to consult with the teachers requesting them in order to better assess specific needs.

The New Approach to Music: Junior Division
H. Perrin, B. Kovacs, F. Daley and N. Allin

This program, developed by the Institute's Music Committee, involves a child-centered approach to the teaching of music for students in Grades 4 to 6. It is published by and only available from Holt, Rinehart and Winston of Canada Limited (Order Department, 55 Horner Avenue, Toronto, Ontario, M8Z 4X6). 297 pages. 1972. $8.05.

Experiments with Film in the Art Classroom
Art Committee (Field Development)

This report by the Art Committee illustrates the potential value of film in the art program of secondary schools by presenting five experiments with film conducted in art classes. Concerned with education through art, the report considers film a vital means of stimulating creative thought and encourages teachers to experiment with this medium. 25 pages. 1970. $2.80.
OISE Publications Sales.

Courses of Study in the Theatre Arts (Grades 7 to 12)
Theatre Arts Committee

This report of the Theatre Arts Committee provides detailed course outlines for a five-year program of Drama and Theatre Arts, together with a suggested bibliography and lists of textbooks, films and recordings of music and drama. 48 pages. 1969. $3.80.
OISE Publications Sales.

SPECIAL PROGRAMS

Individualization Project
G. Scott, W.P. Olivier and E. Sakamoto (Measurement, Evaluation and Computer Applications)

This project has been involved in the development of Computer-Assisted Instruction programs and systems since 1969. To date, six semester-length CAI courses intended for use by first year community college students have been developed in cooperation with about a dozen of the Ontario CAAT's. Current efforts are directed towards the development of an intermediate level mathematics program, portions of which are currently being field tested in the North York and Toronto Boards of Education.

Brief descriptions of the community college programs (Prerequisite Mathematics, Technology Mathematics, Mathematics of Finance, Electricity, Chemistry, Accounting, and Metric Games) are available in the pamphlet:

Carroll, M.P. and Sakamoto, E. *The OISE-CAAT Project—CAI Courses in the Community Colleges*

A similar pamphlet:

The High School Mathematics Course—Field Trial Version I

describes the intermediate level mathematics program.

More detailed descriptions of all of the courses, including examples of objectives contained in the programs and instructions for use, are included in:

The CAN/CAI Course User's Manual ($5.00)

An account of the development, goals, and products of the project is given in:

Olivier, W.P. *The Individualization Project,* 1969–1976

Additional manuals and papers dealing with the CAN system, the CANNET communications network, and other technical or user-oriented aspects of the project are also available.

Requests for these materials should be directed to Mary Pat Carroll or Evannah Sakamoto, The Individualization Project, Third Floor, OISE. Presentations and demonstrations of the CAI programs and further information about accessing the CAI programs themselves may also be arranged through them.

Programming Projects Across the Curriculum: Ten Prototype Exercises
R.G. Ragsdale, Editor (Measurement, Evaluation and Computer Applications)

These sample exercises demonstrate the potential for using computer programming assignments in other subject areas of the secondary school curriculum—for example, consumer education, urban studies, chemistry, physics, physical and health education, and English. These suggestions can help teachers of computer programming to initiate cross-disciplinary projects that deal with valid problems in the non-programming subject at the same time as programming skills are developed. 1977. $4.35.
OISE Publications Sales.

Teaching Interpersonal Skills
V. Renner, S. Klarreich and C. Vigna (Applied Psychology)

In this handbook a number of materials concerned with teaching certain skills necessary for competent interpersonal behavior have been compiled. The first section of the handbook deals with controlling anxiety; the second section emphasizes developing communication skills; the third section discusses skills related to problem solving. Within each section the subject matter is broken down into separate elementary principles and skills. These are organized into a series of sequentially more complex stages as the learner progresses through the program. Separate sessions provide guidance for in-class instruction, ideas for homework assignments and references for further information. 45 pages. 1975. $2.15.
OISE Publications Sales.

Handbook for Parents of Preschool Blind Children
I. Davidson (Special Education)

Although this handbook, developed in a project supported by the Ontario Ministry of Education, is primarily designed for work with blind children at the preschool stage, its ideas, principles and suggestions may be of value to teachers dealing with somewhat older blind children. 97 pages. 1975. $3.00.
OISE Publications Sales.

Interpersonal Coping Skills
C. Christensen, M.A. Guttman, D.E. Hunt, L.E. Pass, V.D. Renner, J. Wine, J.C. Weiser, and A. Wolfgang (Applied Psychology)

This project has developed a tentative interpersonal coping skills program which provides an alternative to counselling that can be taught to students as a means of fostering social competence. Although studies to further understand the social coping process are still being conducted, a Leader's Manual for those wishing to present the Interpersonal Coping Skills Program has been prepared. It is available to counsellors and guidance workers from Dr. Jeri Wine, Department of Applied Psychology, at a cost of $4.00. Project staff would appreciate receiving evaluative comments from those trying out the Manual and Program.

DEVELOPMENTAL PROGRAMS FOR YOUNG CHILDREN

The Learning Environment: A Practical Approach to the Education of the Three-, Four- and Five-Year-Old
Christine Nash (Field Development, Midnorthern Centre)

This book examines how young children learn and applies this knowledge to the classroom environment. The dimensions of space, time, people and things are analysed. Using theory and the results of research, a practical approach to the classroom program is developed which encourages the three-, four- and five-year-old to think. 208 pages; illustrated. $7.95 (paper) from Methuen Publications, 2330 Midland Avenue, Agincourt, Ontario, M1S 1P7.
(See also, *Evaluation in the Kindergarten Years,* page 28.)

Conceptual Skills Kit
C. Bereiter (Applied Psychology) and E. Regan (Curriculum)

This kit was developed as part of the Elementary School Thinking Program and is described on page 5.

Stimulating Cognitive Growth: A Program for Primary Grade Children
Peterborough Curriculum Development Group, E. Regan and K.A. Leithwood (Curriculum)

This manual, which is directed toward further development of skills introduced in the Conceptual Skills Program, was produced as part of the Elementary School Thinking Program and is described on page 6.

Basic Thinking Skills in the Junior Kindergarten Program
L.A. Popp and J.P. Robinson (Field Development, Niagara Centre)

This material was developed as part of the Elementary School Thinking Program and is described on page 6, as is a *Manual for the Teaching of Basic Thinking Skills* intended for teachers and classroom volunteers working with primary grade children.

Parent's Manuals
Niagara Centre Staff

Two manuals, intended for parents of preschool and kindergarten children, are equally suitable for classroom volunteers or teachers. Both were developed as part of the Elementary School Thinking Program and are described on page 7 under the heading "Use of Volunteers in Providing Cognitive Stimulation".

Films

A number of films have been made by or under the auspices of OISE. All of the following films, except the last two listed, are available on loan (within Canada only) from the Audio-Visual Section of the OISE Library. Inquiries concerning these films should be directed to Miss Carol Calder, Audio-Visual Librarian (Telephone: 923-6641, Extension 394).

A Multi-Media Grope
Media Group (Computer Applications)

15 minutes; color. 1969.

In this film, Anthony Barton and David Stansfield explain the "Thirties Box". Interviews, classroom scenes and the process of assembling the box reveal how and why the unstructured boxes of materials on the Depression years of the 1930's came about and how they may be used in the classroom. (For details of the Box itself, see page 10.)

Hard-Soft School
A. Barton (Computer Applications)

6 minutes; color. 1969.

In this animation film, Anthony Barton shows his concept of "Hard-Soft" schools in an open-ended graphic presentation.

The Music Maker
R. Pierce (Computer Applications)

15 minutes; color. 1970.

This film involves mobile dialogue with Milan Kymlicka. It is a general education, teacher-information documentary about this Czechoslovakian composer who was commissioned by the North York Board of Education to write instructional music. The film explores the state of music education in schools and presents Kymlicka rehearsing with students, with commentary by School Board officials.

Diversity Forest
Media Group (Computer Applications)

17 minutes; color. 1971.

In this film, the value of diversity in learning is discussed and demonstrated, using materials such as the Media Group's Thirties Box and Perception Bag.

The film may be purchased from the Visual Education Centre, 95 Berkeley Street, Toronto, Ontario M5A 2W7.

Song of Boat Harbour
A. Barton & M. Roe (Computer Applications)

6 minutes; color. 1971.

This animation film concerning pollution and the pulp and paper industry was produced as part of the EcoBox project.

Enquiry Into Enquiry: A Film for Teacher Education
F.M. Connelly (Curriculum)

23 minutes; color. 1971.

This film illustrates in a non-rehearsed classroom situation an instructional discussion technique for using enquiry curriculum materials. It is intended not only to convey a particular conception of teaching but also to allow analysis by teachers in terms of enquiry. It will be accompanied by a user's manual and may be employed as an auto-instructional device for teachers. The film was produced as part of the Patterns of Enquiry Project (see page 20.)

Mr. Smith and The Cancerman
J. Katz (Curriculum)

16 minutes; black & white. 1969.

This film, and the two described immediately below, were produced by a Grade 11 class at Vaughan Road Collegiate, Toronto, in connection with the film-study project which produced *A Curriculum in Film* (see page 18). "Mr. Smith and the Cancerman" is a satire on spies, smoking and cancer.

Darling Corey
J. Katz (Curriculum)

16 minutes; black & white. 1970.

Also produced by Vaughan Road students, this is a film adaptation of an American Appalachian folksong.

Horton
J. Katz (Curriculum)

16 minutes; black & white. 1969.

This film demonstrates a whimsical approach to a boy's rejection of established conventions. He seeks out a free school, where he falls in love.

The Vaughan Road Document
J. Katz (Curriculum)

11 minutes; black & white. 1969.

This short documentary, by Dr. Katz's project staff, describes the making of "Mr. Smith and the Cancerman".

A Demonstration Program on Infant Care and Education
W. Fowler (Applied Psychology)

15 minutes; color. 1971.

Dr. Fowler describes the OISE Infant Care and Education Program created for the Canadian Mothercraft Society. The program stresses physical care of the infant, the development of concept learning through guided play, creativity through free play and the learning of social skills.

Explorations in Learning
F. Quinlan (Director's Office)

18 minutes; color. 1971.

This film portrays a cross-section of OISE activities, showing their application to school programs. It includes descriptions of the

Moral Education Project, of an OISE Project concerned with individualizing instruction through the use of computers, and of the Modern Language Centre. It also depicts the Institute's adult education program, its interest in such innovations as the open-plan school, and its work with Franco-Ontarian educators.

Fragments: A View of the Toronto Dance Theatre
R. Pierce (Measurement, Evaluation and Computer Applications)

18 minutes; black & white. 1971.

This documentary shows the concentration and intense involvement in the dance of the members of the Toronto Dance Theatre, by exploring their personal thoughts and philosophy as well as their creative abilities.

Facets
Curriculum Department

16 minutes; color. 1970.

This film shows early paintings of Indian life and contemporary Indian life, in juxtaposition to the very culturally different North American life.

In Loco Magistri
H.G. Hedges (Field Development, Niagara Centre)

35 minutes; black & white. 1971.

This film, developed in the Volunteer Parents' Assistance Project described on page , documents the first year's implementation of an operational model in St. Daniel's Separate School in Hamilton (see *Open Education: the St. Daniel's Experience* on page 30), and in Maple Grove, a rural school in Lincoln County (see *The Maple Grove Story* on p. 29). The film maybe borrowed from the Niagara Centre (28 Prince Street, St. Catharines, Ontario, L2R 3X7) as well as from the OISE Library.

Prints of the film may be purchased from the Ontario Educational Communications Authority, 2180 Yonge Street, Toronto.

Concept Development
E. Regan (Curriculum)

53 minutes; color. 1971.

This film presents materials and suggestions for training teachers in the use of the Conceptual Skills program (described on page 5). It deals with teaching children to communicate ideas accurately, to see relationships among concepts and to use concepts effectively.

Change is a Six Letter Word
Ontario Institute for Studies in Education

20 minutes; color. 1971.

In cooperation with their teachers, the principals of six public schools in Peterborough County changed their curricula and classroom situations to better promote progressive learning and emphasize individualized instruction.

Teaching Informally
Department of Curriculum

11 minutes; color. 1973.

This film illustrates typical activities in two informal classrooms in Hamilton elementary schools. It shows how innovative teaching methods can still convey the traditional content of education: even in the informal classroom shown, girls learn to sew and bake, boys learn to use building blocks.

Landscape
R. Pierce (Measurement, Evaluation and Computer Applications)

28 minutes; color. 1972.

This film and the materials to accompany it are sold through OISE Publications Sales and were described on page 21.

The Changing Resource
R. Pierce (Measurement, Evaluation and Computer Applications)

30 minutes; color. 1975.

This film and the materials accompanying it are sold through OISE Publications Sales and were described on page 21.

NOTE: *The following films are not available from the OISE Library.*

The Italian In Transition
A. Wolfgang (Applied Psychology)

26 minutes; color. 1973.

This documentary deals with the problems encountered by immigrant students and their parents in making the transition to a new culture, particularly in relationship to the schools. It explores possible solutions for easing the transition and familiarizes educators with the cultural background of Italian students and their parents. The film, which has both English and Italian soundtracks, is intended primarily for use with teachers in training and New Canadian teachers but will be of value to a variety of others, such as educational administrators and Italian community workers and laymen.

The film may be previewed/rented and/or purchased (at a cost of $315.00) from International Tele-film Enterprises, 47 Densley Avenue, Toronto M6M 5A8.

Body Language in the Classroom
A. Wolfgang (Applied Psychology)

16 minutes; color. 1974.

The purpose of this film is to give teachers an awareness that body language is an effective language in itself. It attempts to show the significant role of body language in the classroom and its relationship to the wider world outside. Specific suggestions are made about non-verbal behavior that teachers can use: gesturing, pointing for emphasis, increasing eye contact for getting attention and for reinforcement.

The film may be previewed/rented and/or purchased (at a cost of $215.00) from International Tele-film Enterprises, 47 Densley Avenue, Toronto M6M 5A8.

Materials Concerned With Evaluation

Tests

The OISE, Canadian and Dominion test series and the Diagnostic Test in Mathematics, Level 1, are published by OISE and distributed through the Guidance Centre (Suite 304, 1000 Yonge Street, Toronto, Ontario M4W 2K8). Descriptions and prices are given in the Guidance Centre Catalogue.

Evaluation and Measurement Newsletter
W.R. Kenzie (Measurement, Evaluation and Computer Applications)

This publication provides information and articles on tests, measures, related publications and services in this field. The *Newsletter,* which is issued intermittently, is directed to school administrators, teachers and guidance workers. It is sent free of charge to every principal in Ontario; annual subscriptions for others cost $1.00. Charges for extra copies of back issues are: single copy, 50 cents; three copies, $1.00; ten copies or more, 15 cents per copy; one hundred copies, $10.00. Specimen sets containing a single copy of each of three previous issues are available for $1.00 per set. Send orders, with accompany cheques, to *E & M Newsletter,* Educational Evaluation Center, OISE.

Sexual Inequality in Elementary School Readers (Evaluation and Measurement Newsletter, No. 23, December 1975)
A. Venton, R. Traub & E. Campbell (Measurement and Evaluation)

This issue of the *E & M Newsletter* describes a study conducted by OISE's Educational Evaluation Center staff which was designed to find out whether elementary school reading texts portrayed male and female characters on a basis of sexual equality. Previous studies elsewhere had suggested that school readers portray men and women, boys and girls, in a sex-stereotyped way; this study was devised to determine whether this kind of bias was present in Ontario readers. The findings, based on content analysis of 34 Grades 4-6 basal readers, supported the claim that the stories in such readers are biased toward male characters as to numbers, vocational status and behavior.

The issue can be ordered from the Educational Evaluation Center, Department of Measurement and Evaluation, at costs specified above for the *E & M Newsletter.*

Standardized Tests: Pro and Con (E & M Newsletter, No. 24, April, 1976)

This issue starts off with a reprint of an article that is critical of standardized, norm-referenced achievement tests. The article, by Mitchell Lazarus, itemizes the defects that, the author claims, are found in nearly all such norm-referenced tests. The *Newsletter* includes reactions to these criticisms from officials in different parts of Ontario: a school superintendent, a professor of education, a research consultant and the evaluation director for a school board. Order from Educational Evaluation Center as specified above.

Evaluation Ideas for the Open Program (E & M Newsletter, No. 25, June 1976)

In this issue are listed numerous materials and ideas for open-ended evaluation of programs, classroom processes and the development and achievement of individual children. Sources are provided, along with prices where applicable. Illustrative examples include a growth scheme for assessing children's inquiry activities and a record form for evaluation of group inquiry. Order from Educational Evaluation Center as specified above.

Multiple Matrix Sampling and the Teacher (E & M Newsletter, No. 26, February, 1977)

This issue of the *E & M Newsletter* describes in everyday language a sampling method that can ease the task of evaluating school programs. It includes an account of how Halton Region evaluated its Social Science program. Order from Educational Evaluation Center as specified above.

Interface: Some Cold Facts in a Hot Argument
(E & M Newsletter, No. 27, April, 1977)

Authors H. Russell, R. Wolfe and R. Traub describe the complex of research projects focussed on the "interface" between secondary and post-secondary education in Ontario, and review some of the findings. Order from Educational Evaluation Centre as specified above.

Documenting What Goes On In Schools
(E & M Newsletter, No. 28, June, 1977)

This *Newsletter* contains an article by Vito Perrone about how teachers in a school can get together to evaluate their own program. Numerous illuminating examples are included. Order from Educational Evaluation Centre as specified above.

Profiles of Teaching Competency: A Way of Looking at Classroom Teaching Performance
(E & M Newsletter, No. 29, February, 1978)

This article by teacher trainers Selma Wasserman and Wally Eggert of Simon Fraser University outlines some of the problems of evaluating teacher competence and offers one approach in the form of an assessment based on 19 "profiles" of teacher qualities. Order from Educational Evaluation Centre as specified above.

Pre-Reading Assessment Kit
E. Campbell and P. Tracy (Measurement and Evaluation)

This kit, field-tested in approximately seventy schools, provides diagnostic information about a child's current performance in several skills related to learning to read.

The kit consists of a series of single-page tests, each measuring pupil achievement in one of four areas: Listening, Symbol Perception, Experience Vocabulary, and Comprehension. Tests at more than one difficulty level are included in each area to provide a better "match" for the wide differences displayed in Grade 1 children. Unlike the traditional "readiness" test, which usually

provides a single general score, the *Pre-Reading Assessment Kit* allows the teacher to design her own assessment program by choosing appropriate areas and difficulty levels and provides her with a profile of the strengths and weaknesses of each pupil. With this kind of data, more effective grouping or individual programs can be planned.

The manual provides guidelines on the interpretation of the test scores and suggestions for follow-up activities, as well as background research data in each skill area.

The costs for the materials are:

Complete kit:	$54.00
Specimen set:	3.60
Separate manual:	2.40
Class summary sheet refills:	1.00/50
Test section refills:	20.00 per section

All are available only from McGraw-Hill Ryerson Limited. Address inquiries to: Mr. John Owen, General Manager, Testing and Evaluation Materials Division, McGraw-Hill Ryerson Limited, 330 Progress Avenue, Scarborough.

The development and field trials of the kit are described in *The Reading Test Project: Final Report: Technical Information* (see pages 4-31). The report is available from the OISE Educational Evaluation Center for $2.00.

Primary Reading Assessment Units
E. Campbell and P. Tracy (Measurement, Evaluation and Computer Applications)

The Primary Reading Assessment Kit is a collection of sixteen short tests of reading comprehension which assess skills in the following areas:

- Identifying explicitly stated main ideas and details.
- Identifying ideas and details implied but not stated in the passage.
- Recognizing cause-and-effect relationships, making predictions from information in a passage.
- Identifying the emotional reactions of characters in a story.
- Recognizing sequence.
- Following written directions.
- Reading graphs, charts and maps.
- Sensing the mood of a passage, recognizing a writer's implicit point of view, and distinguishing fact from opinion.

Tests are arranged in the kit by increasing difficulty level, and are appropriate for a range from better-than-average Grade 1 children to children in Grade 4 who are having difficulties. The tests are color-coded in "Easy", "Moderate" and "Difficult" groups, but have no grade level printed on them.

The kit includes 15 copies of each test (printed on reusable cards), answer sheets, and a teacher's handbook that is a guide for the use of materials and includes suggestions for further teaching and information about the research background of the kit.

The kit is available from OISE Publications Sales and costs $30.00; specimen sets, consisting of one copy of selected tests and a teacher's handbook, cost $3.50.

A Look at High School Reading Assessment from a Canadian Viewpoint
E. Campbell and P. Tracy (Measurement, Evaluation, and Computer Applications)

Four sections are included in this monograph. The first presents some background information about the purposes to which various sorts of tests can be put, and the kinds of skills that are most frequently measured in standardized reading tests at the high school level. The second section outlines some concrete suggestions for using tests effectively in the classroom. The third section is an evaluation of several well-known and easily-accessible tests; this section includes a close look at the types of reading skills tested, some assessment of their technical quality and an appraisal of the extent of American content. The final section is a bibliography of further resources, both on testing and reading programs. 31 pages. 1973. $2.70.
OISE Publications Sales.

Communication in Writing: A Handbook about Evaluation in Writing Programs at the Junior Level
P. Tracy (Measurement, Evaluation, and Computer Applications)

This handbook on the evaluation of writing is based on the integration of clearly specified goals, relevant activities, and evaluation. It attempts to provide the teacher with resources for the development of a constructive writing program. It contains an overview of goals of writing in school, reviews of various authors' suggestions on how to write and organize objectives for a writing program, reviews of methods for essay scoring, and reviews of published tests for writing language skills. It includes a sample curriculum unit in creative written communication. In this unit, aims, activities and assessment are divided into a collection of small components from which the teacher may build a program suited to the students' development.

A limited number of copies of the handbook is available without charge from the Educational Evaluation Center to teachers who agree to provide feedback on the use they make of it.

French Comprehension Tests

For these and other tests developed for students in French immersion programs, see the *Bilingual Education Project* (page 15).

Mathematics Evaluation Materials Package Project
D. Horn (Measurement, Evaluation and Computer Applications) and H. Russell (Field Development)

This project, involving the co-operative work of the investigators and a committee of four educators, has produced an array of objectives and companion test items covering many objectives commonly held by teachers for their mathematics programs in Grades 4 to 6. The package can be used for designing tests covering long or short units of work. It is of particular value in freeing schools from the pressures of specific standardized tests (which frequently fail to conform to the content of existing programs) and in assisting schools in comparing student performance on various curriculum options at times when program changes are being made. Each package includes bibliographies on criterion-referenced testing and on textbooks and other resource materials in the area.

Five packages are currently available through OISE Publications Sales:

Package 1: Experiences with Sets and Numbers, 120 pp. 1972. $6.35.
Package 2: Addition and Subtraction, 78 pp. 1973. $4.75.
Package 3: Multiplication and Division; Mixed Operations, 149 pp. 1973. $7.00.
Package 4: Fractions and Decimals, Ratio and Per Cent, 157 pp. 1973. $8.00.
Package 5: Measurement and Geometry, 185 pp. 1974. $8.15.

Mathematics Evaluation Materials Package: Primary Division

D. Horn (Measurement, Evaluation and Computer Applications)

The MEMP for the Primary Division was developed by Dr. Horn with a committee of five educators. The Primary Division package is composed of a set of specific objectives and companion test items (paper and pencil; oral; and activity) in a sequence in the following topic areas: experiences with sets and numbers; addition and subtraction; multiplication and division; fractions; measurement; and geometry. 240 pp. 1975. $8.75.
OISE Publications Sales.

Diagnostic Tests in Elementary Mathematics
D.M. Horn (Measurement, Evaluation, and Computer Applications) and F. Roliff

These tests—*Concepts of Numbers and Numerals, Operations: Addition and Subtraction,* and *Operations: Multiplication and Division*—were designed to provide a diagnostic tool for teachers in classrooms where emphasis is placed on individual needs. The Diagnostic Tests are closely tied to the Mathematics Evaluation Materials Package (MEMP), Primary Division; a set of objectives was selected for each of the three tests from the objectives listed in MEMP, and corresponding test items were written. Basically, the tests are for use in determining the strengths and weaknesses of individual pupils or groups of pupils. They are primarily designed for grades 3 and 4 but are suitable for use at other levels or with anyone having difficulties with basic concepts or with simple operations on whole numbers.

For each of the three tests, a set of 35 copies and an answer key costs $6.50; the *Teacher's Guide* alone costs $2.00.
OISE Publications Sales.

Grades 7 and 8 Mathematics Test Item Pool
D. Horn (Measurement, Evaluation and Computer Applications)

The Intermediate Division Mathematics Test Item Pool is a set of multiple-choice questions written by classroom teachers in Ontario. These questions were edited by Ontario mathematics educators.

The pool of test items is intended to be a resource which will assist teachers to improve their evaluation of pupil achievement in mathematics. Teachers may tailor tests to meet the needs of individual pupils or groups; they may select questions for classroom use or as models for construction of new items. The pool consists of items in the following four booklets:

Booklet I: A Study of the Set of Whole Numbers.
Booklet II: A Study of the Set of Fractional Numbers.
Booklet III: Geometry and Measurement. A Study of Integers. Presentation and Interpretation of Data.
Booklet IV: Supplementary Classroom Problems.

These are to be used in conjunction with the Teachers' Guide. The four booklets and Teachers' Guide are available from Publications Sales, at a price of $7.60. (Booklets are not sold separately.) 1969.

The Writing of Multiple-Choice Mathematics Test Items
D. Horn (Measurement, Evaluation, and Computer Applications)

This paper is intended to assist mathematics teachers with the difficult task of test-item writing. The paper points out there is no procedure which guarantees good items but it contains some suggestions that have proved helpful to some item writers. A discussion of poor as well as good items is included and in some cases changes are indicated that can overcome weaknesses in an item. 23 pages. 1970. $2.20.
OISE Publications Sales.

Evaluation in Geography: A Resource Book for Teachers
N. Senathirajah and J. Weiss (Curriculum)

Educational objectives in geography and techniques of measuring them are redefined. Practical guidance is given for measuring comprehension, analysis, application and synthesis. 103 pages. 1971. $6.00.
OISE Publications Sales.

Criteria for the Evaluation of Student Writing: A Handbook for Grades 7 and 8
P. Evans (Field Development, Midnorthern Centre), P. Brown, and M. Marsh, Editors

The criteria included in this handbook were designed principally for the use of teachers and students involved in the Senior Elementary Writing Evaluation Project, but teachers of English in general should find the handbook useful. The introductory section deals with the use of criteria both in scoring essays and in dialogue with students. The first main section deals with general means of writing clearly and cogently, through good organization, selective word choice, mechanics of writing, development of ideas, and style. The second section presents the criteria related to specific modes of writing: the first person narrative, real or imaginary; the eye-witness account; the third person narrative, with emphasis on description or dialogue; and two expository methods, outlining process or procedure, and presentation of a viewpoint or argument. 1977. $2.50.
OISE Publications Sales.

Evaluation in the Kindergarten Years
C. Nash (Field Development, Midnorthern Centre)

This method of evaluation, developed to help teachers working in learning-centered kindergartens to see how children were doing, provides a way of recording regular observations of children. It is based on the belief that standardized readiness tests should not be needed if kindergarten program objectives are clear enough that regular monitoring of the program can occur and, consequently, individual progress can be assessed.

The approach is described in the following article:

Nash, C. and O'Bryan, K.G. Evaluation in the Kindergarten Years. *Orbit,* Vol. 7, No. 1, 1976 (Feb.).

The complete description and key for the technique of evaluation is available from:

OISE Midnorthern Centre
295 Victoria Street
Sudbury, Ontario P3C 1K5.

Materials Concerned With Administration, Planning and Curriculum Development

Volunteer Parents' Assistance Project
H.G. Hedges (Field Development, Niagara Centre)

This project has produced a large number of materials for schools planning to involve volunteer parents. Materials have been obtained by over 1,000 schools and it is estimated that some 500 of these have used them; at present, large-scale innovations are in progress in Halton County, Hamilton, Toronto and St. Catharines.

The following materials are available from the Niagara Centre, 28 Prince Street, St. Catharines, Ontario, L2R 3X7. All, unless otherwise indicated, are free of charge.

1. *Using Volunteers in Schools* $1.50
This monograph report describes at length three adaptations of the general model for parental assistance in elementary schools. The project was funded under contract with the Ministry of Education and describes how volunteer programs may be adapted (a) to provide for staff curriculum development time, (b) as a means of integrating special education into a regular school program, and (c) as a means of providing a plan of individualized instruction which will enable teachers to devote considerably more time to the functions that the profession regards as being most vitally linked to student growth.

2. *Volunteer Parental Assistance in Elementary Schools* $1.50
This abstract is a 30-page report summarizing the more important methods and findings in Hedges' study of Volunteer Assistance in Elementary Schools. The original document, which is over 400 pages in length, may be borrowed for limited periods of time on request. The abstract describes the methods of collecting the more important data, particularly on the question of the effect of volunteer help on teachers' time allocations. During periods of volunteer aid, teachers tend to give 21% more time to upper-level professional functions and give almost four times as much individual adult help to students in their classrooms.

3. *Volunteer Helpers in Elementary Schools* $1.75
This monograph describes the process and results obtained in a survey of volunteer programs in 100 sample elementary schools in the Niagara Region. Besides showing the process used in obtaining the data, the report shows the system for analysing and categorizing the tasks performed by volunteers, and provides information for other schools that may wish to conduct a similar survey. (Also available from OISE Publications Sales.)

4. *Parents' Manual No. 1* $1.50
In a number of schools, parent volunteers became interested in the possibility of providing at home some additional instruction for their youngsters in the primary grades. The parents' manual was produced to meet this need. The major focus in the manual is on ways in which parents can help in the development of competencies of Kindergarten and Grade 1 children in the mathematics and reading areas.

5. *The Maple Grove Story* $2.00
This monograph describes the program in a rural school which has implemented at least six major innovations in the past few years. The school was a pioneer in parental involvement and operates a mini-school with no additional budget. This monograph describes the assistance from OISE Niagara Centre in implementing innovations. The largest part of the monograph was written by the staff of the school.

6. *Extending Volunteer Programs in Schools* $1.75
This booklet describes fully three special extensions of volunteer help in schools, each funded under a Grant-in-Aid by the Ministry of Education. One extension deals with secondary school students as volunteers in elementary schools. A second analyses the functions and effects of volunteers in a differentiated staffing plan. The third looks at a plan for vertical integrating of a primary language arts program.

7. *Film—In Loco Magistris*
This film, which documents the implementation of the volunteer parental assistance program in two schools, has been described on page 25.

8. *The Wentworth League of Cooperating Principals of Volunteer Programs* $1.00
This report describes the first year's operation of a league of six principals in Wentworth County who worked together on a regular basis to plan, organize, implement and evaluate large-scale volunteer programs in their schools. Following this initial innovation, the principals explored other OISE projects, which they are implementing in their schools. The league has become a force for professional development throughout the entire school system.

9. *The Niagara League of Cooperating Principals* $1.00
This report describes the activities in the first two years of operation of a league of a dozen principals from four jurisdictions in the Niagara Penninsula who committed themselves to working cooperatively in the assessment, planning, organization and implementation of a number of innovative practices. This report is catalogued under volunteer programs because in most of the schools a large-scale volunteer project was considered to be an essential catalyst in order that the school could get the manpower to explore other innovations. The league also became involved in studies in values education, objectives-setting, teacher evaluation, evaluation of student performance, etc.

10. *Cross-Age Tutoring Project* $1.00
This report describes in detail the rationale, planning, organization and evaluation of an adaptation of the volunteer project in which Grade 13 students in Sir Wilfrid Laurier High School in Hamilton, as part of a course in sociology, learned a remediation cycle and elementary pedagogy and then applied this as tutors on a one-to-one

basis with primary children with major language arts difficulties. One innovation in this project was the building of the volunteer program into a credit plan for the high school students. This project was funded under a Grant-in-Aid from the Ministry of Education. The results are considered to be very important in view of the fact that 19 of the 24 primary pupils had their difficulties remediated to the point that, on standardized tests, they were able to surpass the readiness level for the next grade—an indication that the original learning difficulty had been resolved or remedied.

11. *A Basic Thinking Skills Tutoring Project* $1.00
This project, funded under a Grant-in-Aid from the Ministry of Education, describes an adaptation of a high school volunteer tutoring program in which Grade 13 students, working on a one-to-one basis, taught Kindergarten students the Niagara Centre hierarchy of basic thinking skills and also tried out a number of Piaget's experiments in thinking. The complete chart of data on the different achievement levels of five-year-olds is of interest to primary teachers. The project demonstrated that high school students are capable of learning and administering sequenced programs directed toward improving children's thinking abilities.

12. *Open Education—The St. Daniel's Experience*
$3.00, $2.00 to Educators
The staff of St. Daniel's Separate School (Wentworth County Roman Catholic Separate School Board), an open-space school opened in 1970, have prepared the story of their own school and have described how a closely-knit staff worked together from philosophy through commitment to practice in demonstrating the advantages of Open Education. The book clarifies the distinction between open space and open education. OISE Niagara Centre was involved in this school in major projects including a general volunteer model, an adaptation for special education and an evaluation of open schools study.

13. *The Volunteer Assistance Project* 50 cents
This article, a reprint from *Interchange*, Volume 5, Number 2, 1974, describes in comprehensive fashion most of the components of the volunteer project elsewhere referred to in this section of the current report. Its main value will be to readers who wish to get an overview of the organization of the project, its component parts, special adaptations, analysis of effects on pupil performance, individualization, teachers' time allocations, teachers' and parents' attitudes, etc.

14. *An Operational Model*

15. *Some Suggested Tasks for Volunteer Parents*

16. *Sample Recruitment Letter*

17. *Recruitment Questionnaire*

18. *Volunteer Talent Bureau Questionnaire*

19. *Objectives, Advantages and Potential Outcomes of Parent Volunteer Programs*

20. *General Bibliography: A Selected and Annotated Bibliography*

21. *Taxonomy: Classroom Observation Schedule*

22. *Manual for Categorizing Observations*

23. *Ministry of Education—Bill 128 Amendment—Schools Administration Act*

24. *Teachers' Federation Board of Governors' Approval of Parent Volunteers*

25. *Halton County Board of Education—Student Volunteer Anecdotal Interview Form*

26. *Halton County Board of Education—Teacher Anecdotal Interview Form: Re Volunteers*

27. *Volunteer Assistance in Schools: Help or Hindrance? March 1973*

28. *Parent Involvement at a Small Neighbourhood School. September 1973*

In addition to the above materials, the project has produced bibliographies for anyone wishing to make an extensive study of volunteer parent programs.

Project staff will offer specific in-service training and consultation to interested schools. They will work either with a limited number of staff or with a large number of teachers, as on Professional Development Days. Workshops may relate to models, adaptations, evaluations and procedures for involving staff, recruitment and training of volunteers. For any further information about Volunteer Studies, contact Niagara Centre, 28 Prince Street, St. Catharines, Ontario, L2R 3X7, or phone (416) 684-8558.

Change Models
Field Development

Over the past few years, the staff of OISE's Trent Valley Centre has, while working with educators on changing particular curricula, been doing research on the process of educational change and developing a model for this process. The following monographs and articles describe this research and development work:

1. *Effecting Curriculum Change: Experiences with the Conceptual Skills Project*
E.M. Regan and K.A. Leithwood (Curriculum)

This report, of interest to administrators and researchers interested in the larger issues of curriculum innovation, describes the implementation of the Conceptual Skills Program, a thinking program for kindergarten children (see page 5), in the context of general principles for overcoming conceptual obstacles to successful school change. This case study presents the problems encountered and their solutions in the crucial areas of encouraging adoption, assuring effective teacher implementation and evaluating student outcomes, with particular focus on identifying and overcoming the barriers to communication between developers and potential users. 77 pages. $4.25.
OISE Publications Sales.

2. *Planning Curriculum Change: A Model and Case Study*
K.A. Leithwood (Curriculum), J.S. Clipsham, F. Maynes, R.P. Baxter (Field Development, Trent Valley Centre) and J.D. McNabb (Peterborough Board of Education)

This publication describes the processes involved in the development, implementation and evaluation of a system-wide grades K-10 program of planned curriculum change, the Peterborough County Mathematics Project (see p.). Practising school administrators and teachers, as well as students of school change processes, will find useful ideas and insights that transcend the particular school system and subject-matter context. 127 pages. 1976. $6.50
OISE Publications Sales.

3. *The Peterborough Project: A Case Study of Educational Change and Innovation*
H.H. Russell, (Field Development, Central Ontario Centre), K.A. Leithwood (Curriculum) and R.P. Baxter (Field Development, Trent Valley Centre)

This report on the on-going project in educational innovation in Peterborough emphasizes the diffusion process in the first two phases of the project. This analysis is intended to assist administrators and practitioners who are involved in the design and introduction of innovative programs in schools. 142 pages. 1973. $5.95.
OISE Publications Sales.

4. Leithwood, K.A. and Clipsham, J.S. Planned Change at the System Level. *Curriculum Theory Network*, Vol. 5, No. 3, 1976.
Leithwood, K.A., Russell, H.H., Clipsham, J.S. and Robinson, F.G. School Change: Stages, Constructs and Research Methodology, *Interchange*, Vol. 5, No. 4, 1974.
Leithwood, K.A. and Russell, H.H. Focus on Implementation, *Interchange*, Vol. 4, No. 1, 1974.

A fourth monograph, soon to be published by OISE, extends the work on educational change to other OISE field centres.

School System Intervention: Strategies Derived from Analyses of OISE's Field Centre Projects
K.A. Leithwood (Curriculum), M. Holmes (Field Development) and D. Montgomery.

Selected OISE–Board curriculum projects are analysed to determine strategies employed for the introduction of curriculum change in school systems. Major classes of strategies are derived and illustrated and a broad framework developed for designing intervention strategies.

School Change Project
M. Fullan (Sociology) and G. Eastabrook (Queen's University)

This project has, over the past six years, been concerned with (1) contributing to research knowledge of the change process at the school level and (2) facilitating school people's understanding of the change process and their roles in it. During the 1973–75 period, the focus of the project was on the development of materials, methods and findings designed to support the active involvement of students and teachers in bringing about change at the school level, and the project staff worked intensively in over forty classrooms in two secondary schools to involve students and teachers in a process of educational change. Since then, the project has been concentrating on organizing the materials, methods and findings of the previous two years into a form that will allow school staffs to engage in school change without intensive help from OISE researchers, hence permitting wider dissemination of outputs of the project. They will produce five multimedia (videotape, participant observation, questionnaires and findings, interviews and guidelines) handbooks for school practitioners.

A report entitled "Action Research in the School: Involving Students and Teachers in Classroom Change", describing the project and findings, is available from Dr. Fullan. The handbooks being developed are.

(1) Orientation to a User Model of School Change
(2) Building Classroom Climates for Change
(3) How to Do Your Own Research for Change in the Classroom
(4) Involving Students in Decisions About Curriculum Content, Pedagogy and Evaluation in the Classroom
(5) Involving Students in School-Wide Decision-Making

Handbooks 2, 3 and 4 are currently available in draft form from Dr. Fullan. Schools interested in the use and testing of the first four handbooks should contact this investigator.

Innovation in School Psychology
S. Miezitis and M. Orme, Editors (Applied Psychology)

In this collection of readings, scholars and practitioners focus on the major current issues in the practice of school psychology, advocating a broadening of the conventional role of the school psychologist and offering new insights into relations among school psychology, counselling, special education, and consultation with teachers. The collection includes several papers by OISE staff members who are developing innovative theoretical and practical approaches in school psychology. 152 pages. 1977. $7.50.
OISE Publications Sales.

A Long-Term Study of Open Education in Ontario
J. Weiss (Curriculum) and R. Traub (Measurement, Evaluation and Computer Applications)

The current "Longitudinal Study of Program and Architecture" is the third in a series of investigations which have attempted to clarify the nature of open education. With a sample of 72 schools, its specific objective is to assess the relative contributions of openness of school program and architectural type to the development of a wide range of student characteristics, such as cognitive achievement, attitudes, and independence and curiosity, over a period of three years. It will also determine the relation between school program and architecture and obtain information on a number of other issues.

Although reports of overall findings will not be available until after the termination of data analysis (late 1978), some information about emerging results can be obtained from the "Study of School Program and Architecture Newsletter", distributed by the project to all participating schools. For instance, *Newsletters 4* (June 1975), *7* (March 1976) and *8* (June 1976) contained descriptions of results of questionnaires administered to parents, teachers and students respectively. Copies of these issues, or of the "Dimensions of Schooling Questionnaire" (an instrument for assessing the educational program of a school) developed for the project, are available from Dr. Traub, Department of Measurement, Evaluation and Computer Applications.

Earlier work by these investigators concentrated on schools within a single Board. It is described in a monograph available from OISE Publications Sales:

Traub, R., Weiss, J. and Fisher, C. *Openness in Schools: An Evaluation Study*. Toronto: Ontario Institute for Studies in Education, 1976. 69 pages. $4.50.

Open-Concept Programs in Open-Area Schools
D. Musella, A. Selinger and M. Arikado (Educational Administration)

This study, funded under contract by the Ontario Ministry of Education, was designed to meet the need of practising school personnel for immediate assistance in solving problems related to the development and implementation of an open-concept school program. The report on the study includes: a model for conducting in-service activities; sample workshop segments, developed and used by the project team, which can be used for workshops to be conducted by school personnel at the individual school level; a discussion of the advantages, disadvantages, problems and problem solutions concerning open-area schools; a collection of papers presented at open-education conferences sponsored by

the project; and an annotated bibliography of sources available at the OISE Library. 1975. 96 pages. $2.00.
OISE Publications Sales.

The Planning Process: A Systems Perspective for School Boards
J.G. Scott (Graduate Studies) and D. Duchame (Field Development), Editors

This collection of papers, selected from the presentations at a 1971 conference sponsored by OISE's Department of Educational Administration and the Ontario School Trustees' Council, is intended to provide assistance to educational decision-makers in developing improved approaches to planning and budgeting. 81 pages. 1972. $4.25.
OISE Publications Sales.

Leadership Development Through Simulation Project
D. Musella and D. Joyce (Educational Administration)

This project has produced a series of booklets designed to simulate the problems encountered by educators in leadership positions at various levels in the educational system and to develop greater understanding of problem-solving processes. The materials, intended for in-service use, challenge the reader's judgment in determining how best to deal with the administrator's daily problems. A handbook for use by group leaders accompanies the series and gives practical guidance on methods of the simulation technique, together with sample workshop outlines.

The handbook and the in-basket simulation exercise booklets are available from OISE Publications Sales.

Conducting In-Basket Simulation: A Handbook for Workshop Leaders. 1972. $4.65
The Elementary School Principal. 1972. $3.30
The Area Superintendent. 1973. $4.20
The School Board Trustee. 1972. $3.85
The Intermediate School Principal. 1973. $3.30
The Secondary School Principal. 1973. $3.30
The Director of Education. 1973. $5.25
The Secondary School Division Chairman. 1974. $3.30
The Elementary School Consultant. 1974. $3.25

Developing School Systems—Planning, Organization and Personnel
T.B. Greenfield, J. House, E. Hickcox and B. Buchanan (Educational Administration)

The manual is designed to assist school trustees, administrators and teachers in the task of assessing present educational organizations and developing new ones. It provides a model for decision-making and organizational design. 177 pages. 1969. $7.35.
OISE Publications Sales.

Developing and Assessing Objectives for School System Planning
T.B. Greenfield (Educational Administration)

Can a school system identify objectives which may then be used for program development, budgeting and evaluation? This study was conducted while the York Borough Board of Education was attempting to implement an objectives-oriented system for planning and budgeting. It offered a comprehensive set of educational objectives to groups of trustees, administrators, teachers and consultants and asked them to identify which ones should represent the goals of their school system. Broad patterns of agreement on objectives appear among the groups but there were also a number of disagreements and inconsistencies between the groups and within them. The report identifies a number of problems which occur when a school system attempts to identify a comprehensive set of objectives for management purposes and suggests some means by which these problems may be overcome. A copy of the report may be obtained from Dr. Greenfield of the Department of Educational Administration.

Student Transportation: Comparing Alternative Methods of Providing the Service
B. Elwood (Educational Planning)

This publication describes a model for (a) the objective assessment of different types of systems (board-owned-and-operated, rented, and combinations of these) and for (b) the examination of a school district's needs. 24 pages. 1970. $2.65.
OISE Publications Sales.

School Planning Manual
C. Watson and S. Quazi (Educational Planning)

This manual, encouraged and financially supported by the Waterloo County Board of Education, not only serves as a central reference textbook for M. Ed. students of educational planning but also shows practising school board planners how to prepare medium-range facilities plans and other common tasks requiring forecasting skills. 1973. 225 pages. $5.15.
OISE Publications Sales.

Meeting Problems of Declining School Enrolment
E.B. Rideout, C. Sylvester and M. Harris (Educational Administration)

This study, funded under contract with the Ontario Ministry of Education, considers how school boards should proceed when closing a school seems to be the solution to declining enrolment. Nine case studies of proposed school closure are described and, on the basis of an analysis of these actual cases, guidelines and criteria are suggested for dealing with declining-enrolment situations, with specific procedures for planning and implementing closure when it becomes unavoidable. 1975. 104 pages. $2.00.
OISE Publications Sales.

Educational, Social and Financial Implications to School Boards of Declining Enrolments
E.B. Rideout (Educational Administration), Principal Investigator

This report of continuing work in the area of declining enrolments, also supported by the Ministry of Education, contains a bibliography and supplements that of the previous *Meeting Problems of Declining School Enrolment* project. The report itself considers: research findings on the adequacy of small schools; the relationship between elementary school size and cost per pupil; and alternative day-time use of vacant school space. 1977. $3.00.
OISE Publications Sales.

Student Accommodation: A Planning System for Student Accommodation Management
B. Elwood and T. Vangel (Educational Planning)

Two working papers prepared for the Waterloo County Board of Education in connection with Project SAMPS (Student Accommodation Management/Planning System)—a computerized method designed to help school boards analyze facility requirements and develop rational accommodation plans—are available from Dale

Campbell, Department of Educational Planning. They are:

Project SAMPS: Development and Applications in Waterloo County, March, 1972.

Project SAMPS: Elementary Accommodation in the North Dumfries School District, February 1973.

SAMPS is a system that allocates sutdents with specified educational requirements to schools which can provide for those requirements in such a way as to minimize the overall home-to-school distance of the student body. Applications range from attendance boundary design to school/program mix determination to site selection—in short, any decision for which the geographical matching of student distributions to school locations is an important criterion. The first report provides a brief non-technical view of SAMPS, along with its application to capital program planning for a region in Waterloo County. The second is a working report of a SAMPS application to accommodation analysis in another Waterloo Board region.

Educational Television on Demand: An Evaluation of the Ottawa IRTV Experiment
G.H. McLaughlin (Computer Applications)

This description and evaluation of an information retrieval television system which was instituted on an experimental basis in Ottawa schools is of interest to administrators contemplating the use of such a system. In the IRTV system the resources of one central audiovisual library can be transmitted within minutes of request to a classroom television receiver, thus avoiding the rigidities of broadcast schedules and existing film distribution methods. 167 pages. 1972. $6.25.
OISE Publications Sales.

The Costs of Information Retrieval Television: A Case Study in the Cost-Effectiveness of Educational Media
M.M. Gailitis (Computer Applications)

This publication provides a detailed analysis of the costs of the Ottawa information retrieval television experiment described in *Educational Television on Demand.* From this analysis, the author generalizes to a broader methodology for analysing the cost-effectiveness of full-scale IRTV and other media systems. The study serves as a valuable guide for school board administrators and planners concerned with organizing efficient media systems. 87 pages. 1972. $5.10.
OISE Publications Sales.

Reference Sources on Canadian Education
E. Auster (Educational Administration)

This guide focuses on reference sources dealing with the major aspects of Canadian Education. It lists sources that answer specific questions (e.g., directories, almanacs) and ones that lead the searcher into the literature of education (e.g., abstracts, bibliographies). Containing more than 300 annotated entries, it is especially useful to teachers and others for locating schools, research studies, and bibliographical, financial and statistical information. 1978. $3.95.
OISE Publications Sales.

Current Bibliography Series
Library

The Reference and Information Services Section of the OISE Library produces bibliographies in areas about which they have received large numbers of enquiries from teachers, administrators and researchers in education. All of the following currently available titles are sold through OISE Publications Sales:

Elementary Teacher Education/Certification: An Annotated Bibliography (1963-1974). 44 pages. 1974. $3.25.

Teacher Evaluation: An Annotated Bibliography. 32 pages. 1974. $3.00.

The Junior Kindergarten: An Annotated Bibliography. 21 pages. 1974. $3.00.

The Credit System: An Annotated Bibliography. 21 pages. 1974. $3.00.

The Nongraded School: An Annotated Bibliography. 40 pages. 1973. $3.00.

The Open School: An Annotated Bibliography. 34 pages. 1973. $3.00.

The Education of New Canadians: An Annotated Bibliography. 1978. (Price to be announced.)

OISE Bibliography Series
Library

The first two titles to be published in this new bibliography series provide comprehensive surveys of existing materials on two current issues in Canadian education. They are available through OISE Publications Sales.

Collective Bargaining in Canadian Education. 38 pages. 1975. $2.65.

Community Education in Canada. 55 pages. 1975. $2.65.

Structure, Decision-Making and Communications in the Waterloo County School Board
T.B. Greenfield and others (Educational Administration)

What design should the administrative structure of a school system follow in order to facilitate communication and decision-making? The trustees of the Waterloo County School Board commissioned a study to answer this question. The answers contained in this report do not rest upon an abstract set of principles which may be used to judge whether an administrative structure is right or wrong. Rather, the study sets out to clarify how decisions are made in the school system and what patterns of communication are typical of it. The study looks further at the problems which people in the administrative structure speak about, and how they think they might be resolved. The result showed a number of issues on which people were divided in opinion. The question of which structure is best depends on how these issues are seen. 1974. 94 pages. $3.50.
OISE Publications Sales.

Sharing School Facilities with the Trainable Mentally Retarded: A Study of Sharing Secondary School Facilities with Senior Trainable Mentally Retarded Students (Age 14–21)
C. Nash and A. McQuistin (Field Development, Midnorthern Centre)

In this study, funded under contract by the Ontario Ministry of Education, observations were made of the interaction between two Sault Ste. Marie schools—a regular high school and a school for senior trainable mentally retarded students—which shared facilities, of the administrative model of semi-integration, and of aspects of the behavior of the retarded students compared with similar students in the segregated TMR school. From the analysis of outcomes in this case, the authors suggest tentative guidelines

for future projects in this area. 1975. 123 pages. $2.00.
OISE Publications Sales.

The Education of Immigrant Students: Issues and Answers
A. Wolfgang, Editor (Applied Psychology)

In this collection of sixteen papers educators, social scientists and others active in the field of immigrant education examine the problems facing immigrants in our schools. Among the issues addressed are whether ethnic pluralism is a workable concept and what new approaches are most effective in teaching New Canadians. 224 pages. 1975. $6.65.
OISE Publications Sales.

The Impact of Multi-Ethnicity on Canadian Education
V.R. D'Oyley, Editor (Measurement, Evaluation and Computer Applications)

This report, based on a June 1976 conference sponsored by OISE, the Urban Alliance on Race Relations and others, is intended to assist the general public as well as professional educators to think about some of the ramifications inherent in the efforts to provide schooling for children of many races within the same physical setting. The report includes papers on the following general topics: (1) socialization and multi-culturalism; (2) dimensions of culture and educational implications; (3) teacher education; (4) the system in action; (5) housing, women and children. 1977. $5.00.
OISE Publications Sales.

A Computerized System for School Bus Routing
G. Tracz and M. Norman (Educational Planning)

This report describes a computerized procedure for obtaining efficient bus routes and provides input data requirements and sample output listings. Testing and evaluation were assisted by the Waterloo County Board of Education. 29 pages. 1970. $2.75.
OISE Publications Sales.

OISE Services to School System Personnel

Office of Field Development

The Office of the Coordinator of Field Development offers assistance to teachers and administrators across Ontario through its central office and nine regional field centres.

The central office publishes a monthly newsletter which is circulated to senior educators in the province. The journal *Orbit* is provided free to all schools in the province and is obtainable by the public through Publications Sales. *Orbit* concentrates on matters of interest to the classroom teacher.

The field centres can help school personnel with requests for information, library services and other information about the Institute.

The field centres are:

Western Ontario Centre 247 Epworth Avenue London, Ont., N6A 2M2	R.H. Stinson, Head (519) 433-2631
Niagara Centre Connaught Public School 28 Prince Street St. Catharines, Ont., L2R 3X7	H.G. Hedges, Head (416) 684-8558
Trent Valley Centre R.R. No. 3 Peterborough, Ont., K9J 6X4	D.W. Brison, Head (705) 742-8827
Central Ontario Centre 252 Bloor Street West Room S1128 Toronto, Ont., M5S 1V6	H.H. Russell, Head (416) 923-6641, Ext. 223
Northwestern Centre Central School Resource Centre 10 South Algoma Street Thunder Bay "P", Ont., P7B 3A7	M. Twomey, Head (807) 344-5764
Midnorthern Centre 295 Victoria Street Sudbury, Ont., P3C 1K5	P. Evans, Head (705) 675-6491
Midwestern Centre Victoria School 25 Joseph Street Kitchener, Ont., N2G 1J2	J. Davis, Head (519) 579-0780
Ottawa Valley Centre 60 Tiverton Drive Ottawa, Ont., K2E 6L8	D. Ireland, Head (613) 224-0561
Northeastern Centre 269 Main Street West North Bay, Ont., P1B 2T8	F. White, Acting Head (705) 472-6611

The office of the Coordinator of Field Development, Dr. Mark Holmes, is Room S1120 in the Institute.

Library

The OISE Library is open to teachers and other educational personnel. For the convenience of such users, as well as our own staff and students, the Library is open seven days a week for an average of over eighty hours per week. Library materials are available to users outside the Toronto area through inter-library loans between libraries.

Library tours and programs may be arranged through the OISE Conference Office.

Several sections of the Library are of particular interest to teachers.

The Instructional Materials Collection section is composed of a variety of educational materials organized by subject and shelved together regardless of form or medium. This is a display collection and not available for loan.

The Audio-Visual Services section maintains a collection of tapes, records, filmstrips, films, etc., as well as relevant books and journals.

The Reference and Information Services section provides assistance in locating books and periodicals and in using indexes, bibliographies and other reference materials. In addition, this section operates the Research Information Service for Education (RISE), described below.

Research Information Service for Education (RISE)

Through its Research Information Service for Education, the OISE Library offers an extended reference service to the larger educational community on a contract basis. In-depth literature searches are designed and executed by librarians to meet the information needs of individual administrators, school board personnel, teachers, researchers, parents, community groups and others interested in securing the latest and best information that is available on a specific education-related subject. Literature searches are based on the OISE Library's extensive collection of books, journals, research reports, theses and ERIC documents. But a RISE search goes beyond the Library to exploit the informal, human education-al-information network in Ontario—all in an effort to retrieve information on practices, theories and research bearing on the issue or problem that a RISE client is currently tackling. This service is especially useful for locating less easily-accessible Canadian and local materials.

The product of the search is custom-tailored to each client's specifications but RISE typically produces an information package that contains a bibliography and photocopies of relevant items, as well as directions for procuring books and other materials not suitable for photocopying. Clients may, however, request an annotated bibliography, or a review of the literature.

The cost of a RISE literature search depends on the time required in each case. The rate is $12.00 per hour. The charge for photocopying is 20¢ per page, with a $2.00 minimum per order. When the search is arranged, a client may specify a maximum amount of time to be consumed and a maximum number of pages to be photocopied. At the same time, the librarian may be able to estimate the number of hours that will be required to provide the information needed.

The list of potential topics for a RISE literature search is limited only by a liberal definition of the field of "education". For example: the role of the teacher in school decision-making,

the optimum size of secondary schools, curriculum materials for values education, evaluation of university faculty, alternative kindergarten entry patterns, methods for teaching adults.

For further information, or to arrange a search, contact Linda Corman, Librarian, Research Information Service for Education, OISE Library, 252 Bloor Street West, Toronto, Ontario, M5S 1V6, or phone (416) 923-6641, Ext. 202.

EISO: Educational Information System for Ontario

The Educational Information System for Ontario (EISO) project at OISE, being funded under contract by the Ministry of Education, has been in full operation since September, 1975. An individual interested in using it simply describes the topic of interest and explains how the information is to be used. For example, a teacher might be interested in reading materials for Grade 1 children in rural areas in order to develop a more relevant and stimulating program. She would forward her request by phone or letter to the search analyst, a specially trained reference librarian.

Upon receipt of a request, the search analyst rewords the content to conform to a list of subject headings designed for computer scanning of large data bases such as *Dissertation Abstracts, Exceptional Child Education Abstracts, Psychological Abstracts, Social Sciences Citation Index, Sociological Abstracts,* and those maintained by the Educational Resources Information Centre (ERIC), an information gathering and dissemination network operating under the auspices of the U.S. National Institute of Education. Through the *Current Index to Journals in Education (CIJE)* and *Resources in Education (RIE),* ERIC has indexed over 200,000 items, including journal articles, curriculum materials, conference papers and research reports. Substantial amounts of Canadian materials included in the ERIC data base help to make it one of the most valuable sources of information for educators.

The search analyst then uses a computer terminal connected to a computer where the ERIC data base is stored. As each of the various subject headings is typed into the terminal, the number of relevant documents is narrowed down. For example, there might be over 500 items listed under the heading "reading materials" but, as the headings "Grade 1" and "rural schools" are added, the items that would be classified under all three headings might be limited to 35. To complete the process, the search analyst instructs the computer to print a bibliography containing the relevant citations (which includes abstracts for documents in RIE). The bibliography is mailed directly to the requestor, where it normally arrives within a week.

Depending on the complexity of the topic and length of bibliography, a search can cost as little as $10 or as much as $100. Clients are charged $12 per hour for the search analyst's time (to the nearest quarter-hour), for computer connect-time, and for citations printed. Costs for connect-time and citations vary with the data base and computer system used.

EISO provides microfiche copies of all ERIC documents at a charge of 50¢ per fiche, and paper copies of those with ED numbers greater than ED 065 734 at a charge of 6¢ per page. Paper copies of documents with numbers between ED 000 001 and ED 065 734 inclusive are available from ERIC Document Reproduction Service (EDRS) in the United States. Paper copies of journal articles are available from EISO at a charge of 20¢ per page. Order forms for both documents and articles will be sent to clients with the EISO bibliography.

Individuals interested in requesting a search should contact the Search Analyst, EISO Search Service, OISE Library, 252 Bloor Street West, Toronto, Ontario, M5S 1V6, or phone (416) 923-6641, Ext. 487.

The principal investigators for the EISO project, Ethel Auster and Dr. Stephen Lawton (Department of Educational Administration), will be pleased to provide additional information concerning EISO.

Conference Office

The Conference Office arranges visits to OISE for groups of teachers on Professional Development Days, sponsors large conferences in a variety of educational areas and arranges workshops and seminars involving OISE staff both within the Institute and in schools. For information, contact Mrs. June Armstrong, Conference Office, OISE.

A monthly "Calendar of Special Events" is available from Mrs. Armstrong upon request. This calendar lists conferences, seminars and meetings likely to be of interest to educators, whether or not these activities are sponsored by OISE.

Information Services

The Institute handles requests for information from the public and the press through the Director's Office.

In order to ensure that all undirected telephone calls and letters receive full attention, this office answers or re-directs the many queries that the Institute receives on all aspects of education from parents, teachers, administrators and others concerned with education.

Research and Development Information Services

The Office of the Coordinator of Research and Development Studies answers requests from the field for information about on-going and completed studies by Institute staff and students in particular content areas, or about the general scope of Research and Development studies at OISE. Staff in the Office prepare and disseminate reports describing the overall research and development program each year, materials available to teachers, and OISE studies in particular areas. Reports available at the present time include:

- *OISE Activities Related to Minority Groups in the Educational System,* January 1973.
- *Studies of Society and Social Issues: Activities Related to Social Studies at the Ontario Institute for Studies in Education,* November 1974.
- *Research and Development Projects for Year 13 (1977-78) in the Ontario Institute for Studies in Education,* March 1978.

Inquiries and requests for publications should be directed to Jane Hill, Office of the Coordinator of Research and Development.

Modern Language Centre

The Modern Language Centre is a sub-unit within the Department of Curriculum. Its staff includes specialists in language-teaching theory, psycholinguistics, French and English linguistics, bilingual education and French teaching materials production.

The Centre provides consultation and information services in the above areas and maintains an extensive collection of language-teaching texts and materials (including tests and tapes), as well as documents on language theory and methodology. Inquiries should be directed to the senior secretary, Modern Language Centre.

Educational Evaluation Centre

The evaluation-resources collection maintained by this Centre

include copies of tests widely used in the schools and books, reports and other materials relevant to measurement and evaluation. The Centre's Evaluation Advisory Service gives advice on evaluation methodology and existing measuring instruments. The staff of the Centre welcomes inquiries and requests from Boards of Education for assistance with problems of program evaluation and student evaluation. The Centre is prepared to offer consultation and back-up for Boards that wish to set up evaluation programs in their district.

Inquiries should be directed to Dr. W.R. Kenzie, Educational Evaluation Centre, Department of Measurement, Evaluation and Computer Applications.

Computing Services Group

Schools and school boards in Ontario may obtain assistance in processing and analysing research data from the Computing Services Group, which has a staff of programmers and research analysts. The Group operates a large-scale, interactive DECSYSTEM-10 computer for data analysis, as well as for experimental and instructional (CAI) applications. Computer time will be charged at cost, as will any extensive programming work. Demonstrations can be arranged. Those interested should contact Richard Wolfe, Computing Services Group, Department of Measurement, Evaluation and Computer Applications.

Film-Making and Videotape

The members of this group are primarily interested in developing curricula with individual communication via film and videotape. They offer two unique and essential services to Ontario schools and teachers and to other members of OISE staff. First, they provide prospective film and videotape producers with advice on cost estimates, feasibility and relevance of a particular film. Secondly, they will undertake the production of films or tapes themselves (or supervise their production by free-lance people) on a cost basis, provided that a proposed film or videotape fits in with the general direction of OISE concerns and that the researcher, school or teacher requesting the service will participate actively throughout production.

For further information, contact Mr. R. Pierce or Mr. J. Barr, Media Services Group, Department of Measurement, Evaluation and Computer Applications.

Publishing

In addition to publishing materials that are a direct outgrowth of its own programs, the Institute's Publications Division makes its facilities available to others.

Contract publishing: institutions or educational organizations may contract with OISE for such services as editing, design, manufacturing and distribution of their publications.

Co-publishing: where potential publications are of mutual interest, the Institute will consider materials sponsored by other agencies or institutions for joint publication on a shared-cost, shared-revenue basis.

Individual contributions to the field of education will also be considered for publication by OISE, acceptance being subject to favorable reviews and the availability of funds or subsidies.

Please address further inquiries to Mr. John Main, Head, Publications Division, OISE.

Additional Sources of Information about OISE Projects, Activities and Publications

Orbit: Ideas About Teaching and Learning

This journal for elementary and secondary school teachers discusses and evaluates new approaches to learning. Its major emphases are on OISE projects and recent programs in Ontario schools, but its material is international.

It is published five times a year and may be ordered through OISE Publications Sales. Subscriptions: $5.00 for one year. Individual issues: $1.25.

Interchange: A Journal of Educational Studies

This international multi-disciplinary journal of research in education includes many articles written by OISE faculty. The journal is particularly concerned with the evaluation of current research, development of educational theory, and application to educational practice.

It is published quarterly and may be ordered through OISE Publications Sales. Subscriptions: individuals, $12.00 for one year; for members of professional associations that advertise *Interchange*, and students, $8.00; libraries and other institutions, $15.00. Single issue: $4.00.

OISE Bulletin 1978-79: Graduate Degrees in Education, University of Toronto

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